PB-223 718

SUPPLEMENTAL REPORT ON AIR POLLUTION CONTROL ACTIVITIES IN FOREIGN COUNTRIES

SECOND YEAR OF PROFILE STUDY

Esso Research and Engineering Co.

PREPARED FOR
Environmental Protection Agency

June 1973

DISTRIBUTED BY:

NTIS
National Technical Information Service
U. S. DEPARTMENT OF COMMERCE

BIBLIOGRAPHIC DATA SHEET

1. Report No. EPA-450/3-73-001

2.

3. Recipient's Accession No. PB 223 718

4. Title and Subtitle

Supplemental Report on Air Pollution Control Activities in Foreign Countries – Second Year of Profile Study

5. Report Date June 1973

6.

7. Author(s)

8. Performing Organization Rept. No.

9. Performing Organization Name and Address

Esso Research and Engineering Company
Government Research Laboratory
Linden, New Jersey

10. Project/Task/Work Unit No.

11. Contract/Grant No.

CPA 22-69-68

12. Sponsoring Organization Name and Address

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

13. Type of Report & Period Covered

14.

15. Supplementary Notes

Supplement EPA Report No. APTD-0601, PB-196 841

16. Abstracts

A synopsis of air pollution control activities is presented for 35 countries which were not covered in the original report. Some of the texts for the original 13 countries were revised and are included. For each country the profile includes a discussion of geography, political features, current air pollution controls, and future trends, followed by an outline of the relationships among major organizations active in air pollution control. Regional intergovernmental organizations with programs relating to the environment are also indicated. A photographic reproduction of a set of index cards are presented for individual air pollution related organizations in each of the countries covered by the profile texts.

17. Key Words and Document Analysis. 17a. Descriptors

Air pollution
Abatement
National governments
Management

17b. Identifiers/Open-Ended Terms

Reproduced by
NATIONAL TECHNICAL
INFORMATION SERVICE
U S Department of Commerce
Springfield, VA. 22151

17c. COSATI Field/Group 13B

18. Availability Statement

Unlimited

19. Security Class (This Report)
UNCLASSIFIED

20. Security Class (This Page)
UNCLASSIFIED

21. No. of Pages 704

22. Price

THIS FORM MAY BE REPRODUCED

1

INSTRUCTIONS FOR COMPLETING FORM NTIS-35 (10-70) (Bibliographic Data Sheet based on COSATI Guidelines to Format Standards for Scientific and Technical Reports Prepared by or for the Federal Government (PB-180 600)).

1. **Report Number.** [illegible]

2. [illegible]

3. **Recipient's Accession Number.** [illegible]

4. **Title and Subtitle.** [illegible]

5. **Report Date.** [illegible]

6. **Performing Organization Code.** [illegible]

7. **Author(s).** [illegible]

8. **Performing Organization Report Number.** [illegible]

9. **Performing Organization Name and Address.** [illegible] USGRDR-1.

10. **Project/Task/Work Unit Number.** [illegible]

11. **Contract/Grant Number.** [illegible]

12. **Sponsoring Agency Name and Address.** [illegible]

13. **Type of Report and Period Covered.** [illegible]

14. **Sponsoring Agency Code.** [illegible]

15. **Supplementary Notes.** [illegible]

16. **Abstract.** [illegible]

17. **Key Words and Document Analysis. (a). Descriptors.** [illegible]

    (b). **Identifiers and Open-Ended Terms.** [illegible]

    (c). **COSATI Field/Group.** [illegible]

18. **Distribution Statement.** [illegible]

19 & 20. **Security Classification.** [illegible]

21. **Number of Pages.** [illegible]

22. **Price.** [illegible] set by the National Technical Information Service [illegible]

EPA-450/3-73-001

SUPPLEMENTAL REPORT ON AIR POLLUTION CONTROL ACTIVITIES IN FOREIGN COUNTRIES

Second Year of Profile Study

Government Research Laboratory
Esso Research and Engineering Company
Contract No. CPA 22-69-68

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Water Programs
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina

June 1973

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This report is issued by the Office of Air Quality Planning and Standards, Office of Air and Water Programs, Environmental Protection Agency, to report technical data of interest to a limited number of readers. Copies of this report are available free of charge to Federal employees, current contractors and grantees, and non-profit organizations - as supplies permit - from the Air Pollution Technical Information Center, Environmental Protection Agency, Research Triangle Park, North Carolina 27711 or may be obtained, for a nominal cost, from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151.

Publication No. EPA-450/9-73-001

THE BASIC PURPOSE OF THIS DOCUMENT IS TO SERVE
AS A SUPPLEMENT TO THE FIRST-YEAR REPORT,
TO FORM COMPREHENSIVE COVERAGE OF THE 2-YEAR
RESEARCH STUDY OF AIR POLLUTION CONTROL
ACTIVITIES IN SELECTED FOREIGN COUNTRIES,
CONDUCTED UNDER CONTRACT NO. CPA 22-69-68.
THE FIRST AND SECOND YEAR REPORTS
ARE INTENDED TO BE A GUIDE FOR ALL ASPECTS
OF THESE ACTIVITIES.

FOREWORD

This report, prepared for the Environmental Protection Agency by Esso Research and Engineering Company, presents a guide to air pollution control activities in selected foreign countries. The research study was conducted during a 2-year period under Contract No. CPA 22-69-68. The document outlines the highlights and breadth of current activities in air pollution control for each country covered. Included are a background text, a descriptive roster of the public and private organizations involved, the names of key individuals, and an indication of sources where further information can be obtained.

The study has been conducted in two steps. The first year, most of the total contract effort was devoted to developing procedures, field interviews, and an interim report. The first-year report is a field survey covering 11 countries in Western Europe, Japan, the USSR, and international organizations. This report, dated November 1970 and distributed in March 1971, is available from the National Technical Information Service as Document No. PB 196,841. During the second year, similar procedures were used to update the original information and to collect and report the information available without field visits for an additional 35 countries.

The present volume is a supplement to the first-year report, which covered the following countries: Austria, Belgium, Denmark, France, Germany, Great Britain, Italy, Japan, the Netherlands, Norway, Sweden, Switzerland, and the USSR, along with certain international organizations. Some of the original texts have been revised for inclusion herein. The text and new cards for each country are placed together in this report. The unchanged cards for separate organizations have generally not been repeated. The earlier report should still be consulted for organization cards, which make up 620 of its 816 pages.

This supplemental report contains new information collected during the contract year 1970-71, with a final cutoff date of December 1971. It is presented as a working document, like the first-year report, and is by no means an exhaustive survey. Information of this type can never be completely up to date. The authors are well aware that the volumes are

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subject to corrections and additions, but a determined effort to elicit corrections from users of the earlier report resulted in surprisingly few replies. The decision was made, therefore, to adopt the working document approach again for the broader coverage sought during the second year, as the best use for limited funds. As before, this choice was made partly in response to an insistent demand from contributing organizations and individuals who pointed out that no such guide is available to them in their own country.

The cooperation of volunteers who have been willing to supply information for their country without field visits has been most gratifying during the second year. Particularly valuable reports of this type were provided by local experts or authorities from Canada, Australia, Israel, and Yugoslavia, and these contributors are acknowledged in their respective countries. This approach was assisted greatly by Professor Arthur Stern, a consultant for the contract, who arranged for a seminar presentation to leading experts of many countries who were visiting the United States at the time of the second International Clean Air Congress in December 1970.

The coauthors of this study collaborated in developing procedures and proceeded separately in field visits and in the initial preparation of the report. Western Europe was covered by Mr. Howard Fuller of Esso Petroleum Co., Ltd.; Japan and the USSR, by Professor Stern of the University of North Carolina; and the second-year revisions in Japan, by Professor Kaisaku Kiyoura of the Tokyo Institute of Technology. The sections on Czechoslovakia, Yugoslavia, Turkey, India, Korea, and Mexico are based on visit report documents provided by the Environmental Protection Agency. The overall report and the contributions of volunteer authors outside Europe were coordinated by the Project Manager, Dr. Homer J. Hall, Esso Research and Engineering Co.

Semantic problems are to be expected in an international survey with independent authors from different countries. These are well illustrated by the term "control activities," which has quite different connotations in England, in Germany, and in the United States. It is used here in the broadest generic sense, to cover surveillance, inspection, legislation, abatement, and all types of organized technical and social action by government agencies, private groups, and individuals.

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SUPPLEMENTAL REPORT ON AIR POLLUTION CONTROL ACTIVITIES IN FOREIGN COUNTRIES

Second Year of Profile Study

I. PROFILE TRENDS

In the major industrial countries, organizations of many types continue to show increased activity in the control of air pollution. In all countries, there has been a marked broadening of concern with the total environment. Many organizations that previously were concerned almost exclusively with problems of air (or water) pollution have now widened their interest to include other aspects of environmental conservation and protection. The resulting integrated viewpoint has led to a worldwide reappraisal of emphasis across the spectrum of environmental effects.

Air pollution is associated everywhere with the growth of industries, urbanization, and the generation of power by steam boilers or by automotive internal-combustion engines. Although the age-old problems of sewage handling and a pollution-free water supply often attract greater attention than air conservation (even in industrial countries), a much firmer approach to air pollution control is evident now, both nationally and internationally. The problems are being identified and specific studies undertaken to resolve the technical, economic, and social difficulties. International bodies (including the United Nations, Economic Commission for Europe, and the Organization for Economic Cooperation and Development) are increasingly employed to develop broad analyses and to examine long-term policies.

Many individual countries (notably Sweden, Germany, Switzerland, the United Kingdom, and Canada) have set up commissions or departments to prepare national policies--usually for all aspects of environmental conservation. In the past, responsibility for developing and supervising pollution control measures has commonly been divided among several government departments, just as air pollution itself has affected different sectors of the national economy. Increasingly, however, the function is being centered in a single ministry, which in turn coordinates the work of all central environmental conservation research. This organization may be the Ministry of Health or a new Department of the Environment created to facilitate the transfer into a single administration activities related to trade and industry, economic planning, transportation, or urban development. National approaches to air quality conservation remain largely individual, however; the broad policies being developed and agreed to internationally are tempered by national attitudes and traditions of organization. Both politically and economically, the tendency toward a single central administration depends in part upon the balance between local and national needs.

Throughout the world, and particularly in the less industralized nations, the capital city is often the center of population, industry, and motor traffic. This city may be the only place in the country where air pollution is recognized as a problem, and industrial pollution elsewhere is directly tied to specific plants. Under these circumstances, air pollution control tends to be considered a local problem, and its needs are balanced against other aspects of environmental conservation which are more important elsewhere.

In developing areas such as India and much of South or Central America, industries have been superimposed rapidly in recent years on a well-developed older culture, with little thought for industrial zoning. As a result, new jobs are placed near an abundant labor supply, but the hazards of air pollution are greatly aggravated because of the constant exposure of both nonworking and working populations to industrial waste gases. The situation is worse where a shortage of capital, and particularly of foreign exchange, has caused the installation of new plants with the least possible operating controls, so as to save capital costs at the expense of higher local costs of operation. This pattern is repeated in many countries, throughout the world. The solution is not easy, since moving industry away from the centers of population creates a heavy load on transportation facilities, which are already overburdened. Nonetheless, the trend in these countries is strongly towards industrial zoning as one of the cheapest and most effective first steps. The examination of this approach frequently starts with surveys to identify the specific industries whose waste products are most likely to be obnoxious or expensive to control, such as new cement plants or power plants.

The decision to install operating controls to decrease pollution in an underdeveloped country depends heavily on economic factors which differ sharply from those in more industrialized areas. The investments required must be justified against increased production or other demands for the same funds, and hazards of air pollution may be accepted temporarily as a calculated risk even after they are clearly recognized. Where further steps are taken, it can be expected that those procedures which can increase the output of industry at a given cost will receive priority, such as improved boiler efficiency or decreased dust losses.

In the industrial countries or localities where air pollution is recognized as a serious problem, control is usually based on a monitoring network. The UK network is exceptional in covering the whole country. Elsewhere, monitoring has started in areas where the problem is most evident, usually in the capital city or other areas having large concentrations of industry or population. In Europe, sulfur dioxide and smoke-monitoring networks have been established in the Ruhr area of Germany, in the Rijnmond area near Rotterdam in the Netherlands, in the Milan area in Italy, and so on. Specific stations have also been set up, notably in Germany, Sweden, and the United Kingdom, to evaluate other pollutants, including those derived from motor vehicles.

Control legislation to limit sulfur dioxide, soot, and other specific aspects of air pollution is not new. The Public Nuisance laws of varying severity that go back several centuries in some countries have been very difficult to enforce, however, since they usually require an offended person to prove damage. In consequence, new laws are now appearing for the control of air pollution that are both broader and more specific in scope. More often than not, this new legislation covers other aspects of environmental controls as well.

Existing air pollution controls and trends can generally be conveniently considered in three broad categories, relating to emissions from industrial sources, domestic and commercial space heating, and motor vehicles. In Tables 1, 2, and 3, reflecting this classification, differences and similarities in the current situation are shown for 10 countries in Western Europe. In general, there are many similarities in the forms of regulation,

Table 1. EXISTING CONTROLS AND TRENDS IN EUROPE: INDUSTRIAL EMISSIONS

Country	Date of effective legislation	Emission/source	Ambient[b]	Type of control
Belgium	1964[a]	Ore roasting	-	Operating license
Denmark	-[a]	-	-	Zoning
France	1917[a]	-	-	Operating license
Germany	1964	(Yes)	(Yes)	Surveillance, monitoring
Italy	1971	-	(Yes)	Surveillance
Netherlands	-[a]	-	-	Operating license
Norway	1961[a]	-	-	Operating license
Sweden	1969	Sulfur dioxide	-	Operating license
Switzerland	1964[a]	Sulfur dioxide	-	Operating license
UK	1863	-	-	Annual license review

[a] New national policy being developed.

[b] Ambient: the term immissions is used in Europe.

Table 2. EXISTING CONTROLS AND TRENDS IN EUROPE: EMISSIONS FROM SPACE HEATING

Country	Date of first legislation	Type of control/ pollutants	Fuel qualities affected	Applicability
Belgium	1971	Permitted fuels Visible smoke	Sulfur, volatiles	Five large towns
Denmark	-	-	-	-
France	1964	Permitted fuels	Sulfur, volatiles, viscosity	Paris only
Germany	1960	Ambient limits	Sulfur	Large furnaces only
Italy	1968	Inspection and licensing	Sulfur, viscosity	All towns
Netherlands	-	Nuisance	-	-
Norway	1970	Liquid fuel	Sulfur, viscosity	Two large towns
Sweden	1969	Liquid fuel	Sulfur	Nationally, stricter at local option
UK	1956	Chimney height Permitted fuels	Sulfur, volatiles	Local option

Table 3. EXISTING CONTROLS AND TRENDS IN EUROPE: AUTOMOTIVE EMISSIONS

Country	Current controls/ pollutant	Adoption by ECE[a]	Future trends
Belgium	Carbon monoxide at idle	Soon	-
Denmark	-	In due time	-
France	ECE	In effect	-
Germany	ECE + own	In effect	Lower emissions, low lead
Italy	ECE (new cars) Diesel smoke	In effect	-
Netherlands	-	In due time	-
Norway	Diesel smoke	In due time	Reduced lead
Sweden	Diesel smoke	Expected	Toward lowest emissions
	Carbon monoxide at idle		Toward zero lead
Switzerland	Carbon monoxide at idle	In due time	-
UK	Diesel smoke	Expected	Reduced lead

[a] ECE limits define carbon monoxide and hydrogen carbide emissions during cyclic tests for new cars, and carbon monoxide at idle for old cars.

such as the use of operating licenses to define allowable design and operating conditions, but marked differences in the balance between the laws and the corresponding system of enforcement. Simple lists like these provide only a quick comparison; differences in the real degrees of control depend on the combination of legislation, application, and surveillance in each specific country.

II. ORGANIZATION OF DOCUMENT

The countries covered in this report are arranged in alphabetical order, with an additional section on international organizations, most of which have their headquarters in Europe. Information for the countries is presented in the form of a profile text followed by a set of index cards, which gives details on individual agencies for air pollution control.

The profile texts and cards are coordinated by means of index numbers which consist of a country code and a three-digit serial number. The codes are taken from the United Nations list of abbreviations, used for motor vehicles in international traffic to identify their country of origin. The serial number and code letters are separated by either a period or hyphen. A period is used for the countries covered by the contractor's field office in Europe, e.g. A.001, and a hyphen is used for the remaining countries, which were covered by consultants or by correspondence, e.g. AUS-001. The serial numbers for organizations in each country were assigned in arbitrary groups, to keep related organizations together. Gaps in these sequences may appear where there were not enough organizations in the country to fill the particular category, allowing for flexibility in future updating.

Most of the 1200 organizations covered in the first-year report, issued in 1970, were unchanged during the year, and cards for them are not reprinted here. The first-year report is available from NTIS as PB No. 196,841, and it should be consulted together with this supplemental report when more information is desired on individual organizations.

The profile text for each country includes a discussion of geography, political features, current air pollution controls, and future trends, followed by an outline of the relationships among major organizations active in air pollution control. The general format for the profiles is shown in Table 4.

The arrangement of material in the text is reasonably uniform from country to country, but occasionally varies for more effective presentation. For example, in countries like Japan and the Soviet Union, which are highly centralized, material is presented by ministries first and then by geographical areas. For Germany, the individual states or Länder are emphasized. The text serves to identify major organizations and indicate why each of them is

Table 4. COUNTRY PROFILE OUTLINE

Name of Country — Country Abbreviation and page number
Date of Profile

I. GENERAL AIR POLLUTION BACKGROUND

   A. Geography

   B. Political features

   C. Present controls

      1. National

      2. Local

      3. Administration

      4. Finance

   D. Trends

      1. Current interests

      2. Proposed controls

      3. Time table

II. RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

   (Includes names of key individual(s), size, purpose, activities, accomplishments).

considered important. There is, however, no connection between importance and the order of numbering of the cards. The serial index number of each organization mentioned in the text is entered in the margin, for easy reference to its card.

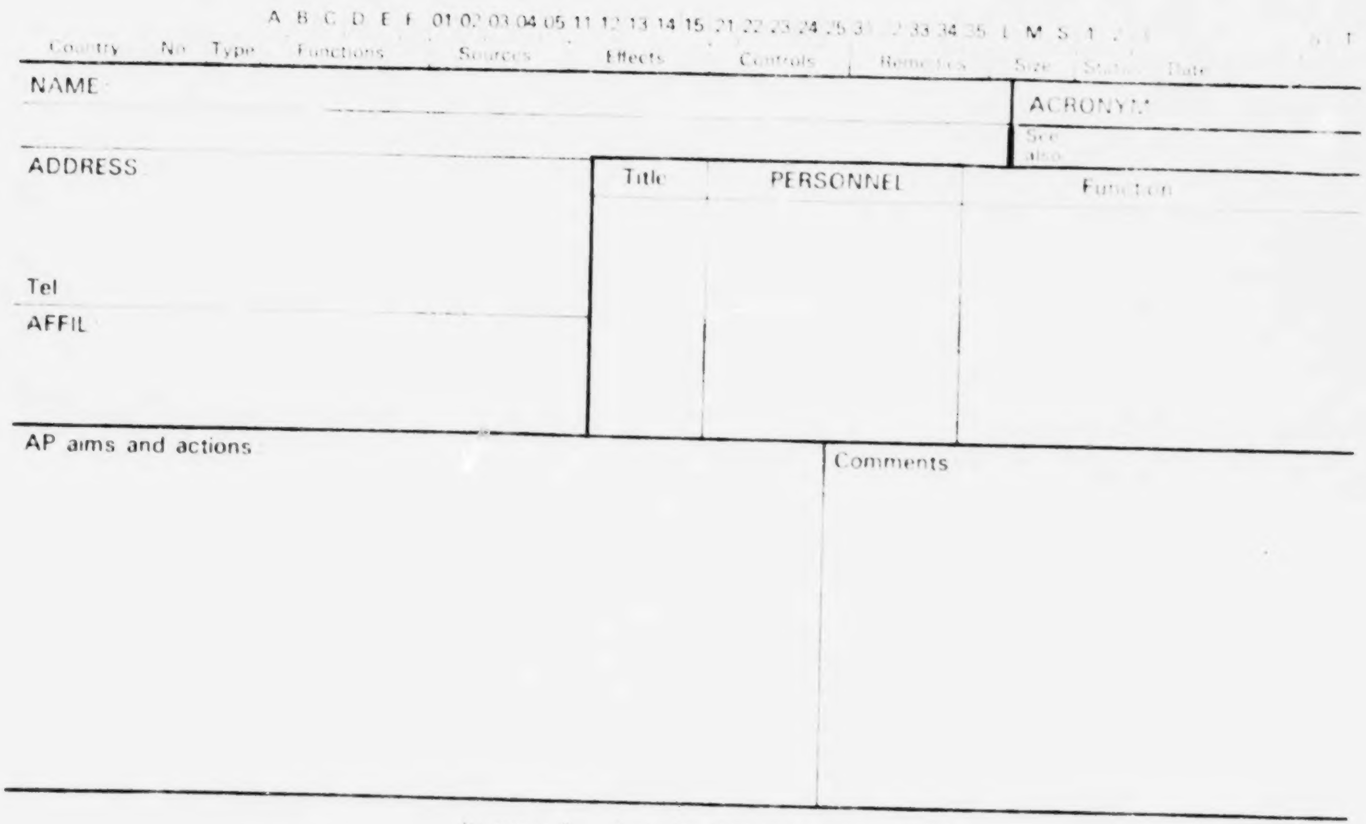
Detailed information on individual air-pollution-related organizations in the countries covered is presented on 5 by 8 index cards, which were used for compiling information from background material and interviews. Designed as "work sheets" for the first-year report, these cards were prepared initially from literature searches and consultations with local experts. They later proved useful for condensing the information gathered during field interviews, and were utilized directly for the interviews in Western Europe. The information obtained in the USSR and Japan was subsequently cast into the same form.

The same card format was used for new countries during the second year. A preliminary draft of the information available, based on a review of the literature, was organized as before and checked against indirect field contacts by telephone through EPA offices, embassies, UN representatives, and visiting foreign officials or experts. Where it was possible to establish a reliable exchange of correspondence, this preliminary draft was corrected and returned by the experts, and the cards were filled out essentially as in the cases of field visits.

As shown in Figure 1, the top line of the index card is coded with edge markings for the specific organization that summarize information given on the rest of the card. The coding key for these entries is given in Tables 5 through 8. The top line was filled out partly or left blank in cases where it was not possible to establish a suitable source for the details involved, as was frequently the case for cards obtained by correspondence. In some correspondence cases, however, the complete set could be filled out by a single expert who was qualified to make comparisons between organizations. The first two entries in the top line, in the upper left corner, are the identifying country code and serial index number described earlier. Next are blocks indicating the type or category of the organization (Table 6), its functions (Table 7), and the fields of expertise or special knowledge for which it is known (Table 8). Size and status data are approximations, not always shown (see Table 5). Space is provided for the date of the interview or initial card record, for reference in updating the cards. In the last two blocks, shown as marked S and T, a mark in the S block indicates that supplementary information in the form of brochures, special publications or reports was collected and is available through the EPA Air Pollution Technical Information Center. A mark in the T block at the end is a reference to the organization in the profile text.

The second line on the card gives the NAME of the organization, both in English and in the original language (or a transliteration thereof). The ACRONYM is frequently left blank. See Also usually refers to functional relationships, mentioning other cards by index number. In some cases, this block indicates both functional and geographical relationships, with the geographical relationships underlined.

The ADDRESS block often includes the telephone number, if available. AFFILIATION shows both parent organization and subsidiary entries, with the



A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5 T
Country No Type Functions Sources Effects Controls Remedies Size Status Date
NAME
ACRONYM
See also
ADDRESS
Tel
AFFIL
Title
PERSONNEL
Function
AP aims and actions
Comments

Figure 1. Sample Organization Card.

Table 5. KEY TO CODING ACROSS TOP OF CARDS

CODE	EXPLANATION
COUNTRY	Abbreviated according to international vehicle registration letters; see Table 1.
SERIAL	A series, beginning at 001, for identification purposes only. The same number identifies the organisation in the national profile and in the collection of brochures, leaflets, etc.
TYPE	Classifies the category of the organization (GOVernment, MUNicipal, etc.) according to list in Table 4.
FUNCTIONS	Indicates the type of activity from Table 5. Multiple entries are possible.
EXPERTISE	Four sections: sources, impact, controls, and remedies, identify the expertise and/or main interests of the organization; see Table 6 for details. Multiple entries are possible.
SIZE	Approximate full-time professional staff (individuals or part-time equivalents): L - Large - >5 M - Medium - 3 to 4 S - Small - 1 to 2
STATUS	A subjective assessment of the status or significance of the organisation:- 1 - group of the highest national or regional significance in air pollution activity. 2 - group with wide air pollution interests within a local area, or a national organisation of secondary importance. 3 - group with limited air pollution activity, or one concerned only with special local interests.
DATE	Month and year of collation (or revision) of the information on card.
S	Indicates supplementary information available (on back of card, or as separate brochures, leaflets, etc.).
T	Indicates reference in national profile text.

Table 6. CATEGORIES OF ORGANIZATIONS

CODE	EXPLANATION
GOV	National or regional governmental body whose primary role is to develop and/or enforce regulations; may also monitor pollution, conduct research, advise, or distribute information
NAT	National organization, possibly set up by government, but largely autonomous; may undertake work on its own behalf or on commission, may also be advisory
REG	Regional organization (for state, land or province) with limited geographical ambit, otherwise similar to NAT.
MUN	Municipal or communal governmental body with local responsibilities similar to GOV.
ASN	Industrial or professional association or trade group, usually reflecting a special interest.
SOC	Private society, social or civic group, not beholden to government; possibly a pressure group. May be active in research or monitoring, or merely advisory
IND	Industries and private companies, undertaking applied work in their own field. Includes manufacturers of special equipment
ACD	University, technical school, or other academic group.
INF	Primarily an information source: libraries, journals, publishers. (Other categories may also act as information sources; see coding "R" under Functions in Table 5)
ONE	Individual consultant, writer, etc., or academician whose institute provides facilities, but not a program

Table 7. CATEGORIES OF FUNCTIONS OR AIMS

CODE	EXPLANATIONS
A	Basic or applied research (direct, supporting, or program coordination)
B	Information, advice, education, training; not thereby involving practical work
C	Legislation, setting up regulations
D	Surveillance, routine monitoring, specific surveys (involving practical work)
E	Enforcement, application of regulations
F	Private or sectional interest, pressure group

corresponding index number. Individual names and functions are given for key PERSONNEL. The first name listed is ordinarily the Director unless it is known that someone else should be consulted directly on activities in air pollution control.

The block entitled AP (air pollution) aims and actions outlines known functions and areas of work for the organization, when not apparent from the title. Bibliographic information is included under Comments. These entries in the cards for Japan provide detailed, coded information based on a special key, taken directly from the 660 - page Directory of Japanese Scientific Periodicals - 1967, of the National Diet Library, Tokyo.

The coding system for the top edge markings on the cards is based on multiple entries, where enough details were available, and a combination of these in the completed file can provide quick access to specific information. It may be used, for example, to indicate lists of government, industrial, or academic organizations in the country that are concerned with stack-gas-cleaning in a chemical process, with effects of atmospheric chemistry on plants and crops, or with the enforcement of regulations concerning vehicles. In some cases, where the information at hand was incomplete, the markings are based on field estimates only. While this key-word type of analysis is very convenient, its usefulness is limited by partial entries, and it involves arbitrary definitions which may be ambiguous. The indications it provides are approximations, therefore, and should be considered in context.

Table 8. FIELDS OF EXPERTISE AND SPECIAL KNOWLEDGE

CODE	EXPLANATION
Sources	Emissions from...
01	Vehicles and prime movers
02	Space and process heating
03	Chemical processes
04	Metallurgical and ceramic processes
05	Noise, radioactivity, miscellaneous
Effects	
11	Hygiene or human health
12	Plant ecology and crops
13	Materials and buildings
14	Amenities and aesthetics
15	National and/or industrial economics
Controls	
21	Development of laws and regulation procedures
22	Instrumentation and monitoring techniques
23	Enforcement, interpretation of pollution data, forensics
24	Ambient air quality measurement, dispersion, meteorology
25	Atmospheric chemistry
Remedies	and Abatement
31	Fuel quality
32	Combustion quality control
33	Stack gas cleaning
34	Engineering-process changes
35	Chemical-process changes

The semantic problems of reaching a common interpretation of the split between categories such as government/national/regional or society/trade association/industry create a hazard in statistical comparisons between different countries. The matter of arbitrary definitions is doubly serious in this supplemental volume, because of the multiplicity of authors for the cards and the decision to publish preliminary information where nothing better was available. For the new countries covered by correspondence, therefore, any conclusions based on numerical count of organizations by category should be based on a careful reworking of the information given on the cards. A useful and instructive cross index of this type by country and category was presented in the first-year report (Table 8, page 185), for which all the reports for Europe were written by a single author.

III. FIELD VISIT PROCEDURE

The approach used to collect the information in the reports, developed during the first contract year, is based primarily on field visits whose results are reported herein. The basic procedure in every case during the first year was to work through a local national contact man who spoke the language and who was well informed about current political, social, and business matters. This person was chosen with care so that he would be knowledgeable and able to establish direct contact with experts in the field.

The local contact men for this study were the Esso marketing representatives in the various countries in Europe, and in each country this individual was assigned the responsibility of becoming familiar in his area with all aspects of air pollution control. Field visits were arranged through this man and were conducted either with him participating in person or with a chosen local expert who was particularly well informed and interested in the project. It was found that the most productive field visits were conducted with the contact man there in person, not by letter or by telephone, although these techniques could be quite useful as a follow-up method once a direct contact was established.

Before any field visits, the fist step was to assemble and analyze all the readily available information on individual organizations and on the overall situation in air pollution control in the country concerned. This action was accomplished by the field worker, using available reference books, and by the contact man, using local sources of information. This preliminary "work-up" was based on the organization cards in Europe, and on a detailed outline of texts in Japan and the USSR.

Once the "homework" was done, the initial field visit in each European country took a week. On the first day, the field worker and the local man, sometimes working with another expert, compared notes and defined problem areas and gaps in the information. The next step was to identify a small number of key people, who could describe the activities of all the organizations with which they work, as well as their own. With this approach, it was possible to gain a representative picture for most countries with a half-day or one-day visit to each of four or five key men. The next step was to digest the information obtained, put together the best overall impression that could be produced from it, and then move toward obtaining the missing information. The local contact man could take effective follow-up action by telephone, and the usual course was to define another round of visits in a second week.

For the second-year report, the same basic procedure was followed for collecting additional information and corrections in Europe, including a brief visit to Ireland. Supplemental information was obtained in Japan by a local review of the data, conducted through Professor Kiyoura at the Tokyo Institute of Technology. No replies were received from several Soviet scientists visiting the United States or from other authorities within the USSR who had offered to supply more recent information for their country than was contained in the first-year report; therefore, editorial corrections only are supplied.

A similar procedure was followed for new countries that were added for the Supplemental Report, except for the fact that there were no field visits. As before, initial texts and cards were based on an analysis of the available literature and information from local sources. Previous visit reports, supplied by EPA, were studied, as well as background information provided by representatives of local Esso marketing and manufacturing affiliates in the different countries. Direct contact was established with several representatives or officials at International Union of Air Pollution Prevention Associations at the time of the Second International Clean Air Congress in Washington, D.C., in December, 1970. As a result, more complete source materials and revised drafts were obtained by correspondence from Australia, Canada, Israel, New Zealand, and Yugoslavia.

IV. PROFILE TEXTS BY COUNTRY

ARGENTINA

BACKGROUND

The country has 23,031,000 inhabitants and a population density of 21.3 per square mile, according to 1967 census estimates. The largest concentrations are in the cultivated areas of La Pampa and along the banks of the Rivers Plate and Parana. Within this area are many of the principal cities of the republic, among them the federal capital Buenos Aires and the important port of Rosario. The capital city has a very high population density, almost 40,000 per square mile. It is surrounded by what is called Greater Buenos Aires, the suburban districts of Buenos Aires Province, which have strong economic ties to the capital. Much lower densities are found in the southern sheep-raising districts of Patagonia, the high-altitude northern districts of Puna and Andes Aridos, and the eastern parts of Chaco and La Pampa.

Industries are concentrated primarily along the River Plate and Parana, from La Plata to Santa Fe city. There, a large number of manufacturing plants employ most of the industrial labor force in the country. Table 9 is a list of the major industrial cities with a population of over 100,000. While industrial development is rather new in Argentina, this segment of the economy has already become extremely important. The value of its production exceeds the two basic traditional activities of agriculture and cattle raising. The food and drink, textile, metallurgical and chemical industries are the largest in order of product value. Natural gas and oil provide most of the fuel used for industry and for space heating, both commercial and domestic. In 1967, 86 percent of the automobiles, trucks and buses used gasoline engines and 14 percent, diesel.

TRENDS

It is expected that within the next few years air and water pollution will be controlled by national legislation. In 1971, the Public Health Secretariat prepared a Code of Sanitation, which specifies the authority to handle such legislation. The National Law on Safety, drafted in 1970, contains no regulations covering air, water, and soil pollution.

Provincial Law No. 7229 is to be applied more stringently in the future in Buenos Aires province. In 1970, the government of the province of Tucuman drafted a local regulation on the minimum sanitary conditions for the environment of factories. Laws in other provinces are still to be enacted.

It is anticipated that the various municipalities will take increasingly stronger action, particularly in regard to the control of noise and smoke from automobiles and industries. Currently there are no indications of future controls on fuel quality.

Television, radio and, particularly, the press give almost daily coverage to air pollution problems, from all over the world. As a result, increasing public pressure can be expected from the residents of large urban areas and industrial centers. Of greatest concern at present are the nuisance of noise and exhaust fumes.

RELATIONSHIPS AMONG ORGANIZATIONS

The State (Federal) Secretariat for Public Health is preparing standards covering diesel smoke emissions. The regulations emphasize adequate maintenance of equipment, rather than composition of fuels. AR-01

In local regulations, Buenos Aires municipality stresses the control of automobile exhaust fumes. It has published a booklet aimed at instructing the population on the proper use of home incinerators, which are a primary source of pollution in the metropolitan area. AR-02

The Argentine Association for the Prevention of Air Pollution is a private organization and a member of the International Union of Air Pollution Prevention Associations It sponsors conferences and lectures for purposes of education and for increasing the awareness of the public and the authorities in regard to air pollution problems. AR-03

Law No. 7229 and Regulation Decree No. 9250 of the Province of Buenos Aires "prohibits the discharge of residual, industrial, solid, liquid, or gaseous effluents into the atmosphere, streams, rivers, and any other source, course or body receiving surface or underground water which will taint or deteriorate the air or the water in Buenos Aires province, without previous purification or neutralization by treatment which will render them harmless and unoffensive for the health of the population or which will obviate its deleterious effect in the atmosphere, and the pollution, detriment and obstructions in the sources, courses or bodies of water." The provincial authorities handling the enforcement of Law No. 7229 have launched a campaign of publicity so that the industries become acquainted with it. Activities are conducted mainly through the municipalities. The authorities have accepted recommendations from the Argentine Industrial Union modifying Regulation Decree 9250. Up to the present, they have not attempted to enforce the law, and no minimum conditions have been established for the quality of gaseous effluents.

Table 9. POPULATION OF INDUSTRIAL CITIES OF OVER 100,000 (1970)

Buenos Aires (Capital)	3,860,000
Greater Buenos Aires	4,140,000
Metropolitan Area	8,000,000
Cordoba	685,000
Rosario	807,000
La Plata	442,000
Mendoza	213,000
Tucuman	310,000
Mar del Plata	294,000
Santa Fe	297,000
Bahia Blanca	160,000
Salta	129,000
Parana	199,000
San Juan	124,000
Corrientes	120,000
Santiago del Estero	109,000

AR [illegible]

NAME Division of [illegible] Safety and Air Pollution [illegible]

[illegible]

ACRONYM

ADDRESS

[illegible]

Buenos Aires, [illegible]

Tel [illegible]

AFFIL

[illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

AR [illegible]

NAME [illegible]

ACRONYM

ADDRESS

[illegible]

Buenos Aires, [illegible]

Tel [illegible]

AFFIL

[illegible]

Buenos Aires

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

Control of [illegible]

Control of [illegible]

Comments

[illegible] maintenance, [illegible] and [illegible]

AR 003SOC ~~A~~ ~~B~~ C D E F ~~01~~ 02 03 04 05 ~~11~~ 12 ~~13~~ 14 ~~15~~ ~~21~~ 22 23 24 25 31 32 33 34 35 L M ~~S~~ ~~1~~ 2 3 S ~~T~~
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Argentine Association for the Prevention of Air Pollution
Asociacion Argentina Contra la Contaminacion Del Aire

ACRONYM:
See also

ADDRESS
Sarmiento 680
Buenos Aires, Argentina

Tel 46-3922

AFFIL

I.U.A.P.P.A.

Title	PERSONNEL	Function
Dr.	Jose A. Rispoli	President
Dr.	Damian Torti	Secretary
	10 Others	

AP aims and actions:

Brings together private and official institutions, professional men and investigators who are interested in the problem of atmospherical pollution and who wish to contribute with their research to solving difficulties arising from air contamination.

Comments:

A founding member of IUAPPA.

(International Union of Air Pollution Prevention Associations)

AR 004 IND ~~A~~ ~~B~~ C D E F 01 02 ~~03~~ 04 ~~05~~ ~~11~~ 12 13 14 ~~15~~ 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 1/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Air and Water Pollution Commission
Comision de Contaminacion Del Aire Y Del Agua

ACRONYM:
See also

ADDRESS
Maipu 645, 3rd Floor,
Buenos Aires, Argentina

Tel 392-1494 and 392-3244

AFFIL

Argentine Petroleum Institute

Title	PERSONNEL	Function
Dr.	E.M. Kessler	President
Ind. Hyg.	H. Marafioti	Secretary
	5 Members	

AP aims and actions:

Prepares rules and recommendations to minimize air and water pollution caused by the oil and petrochemical industries, as a preliminary basis for future national legislation to be requested by the Secretariat for Water Resources.

Comments:

AR	005	ACD	~~A~~ ~~B~~ C D E F	~~01~~ ~~02~~ 03 ~~04~~ ~~05~~	~~11~~ 12 13 14 15	21 ~~22~~ 23 ~~24~~ ~~25~~	31 32 33 34 35	~~L~~ M S	~~1~~ 2 3	1/71	~~S~~ T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Sanitary Engineering Institute
Instituto de Ingenieria Sanitaria

ACRONYM:

See also

ADDRESS:
Paseo Colon 850, 4th Floor
Buenos Aires, Argentina

Tel: 34-6441, Extensions 121, 123 & 126

AFFIL:
Buenos Aires University Faculty of Engineering

PERSONNEL

Title	PERSONNEL	Function
Dr.	R. A. Trelles	Director of Sanitary Engineering Institute
Ing.	J. C. Duran	
	6 Professional Assistants	

AP aims and actions:

Studies and research on air pollution.

Diesel engines.

Home incinerators.

Give courses and teach subjects relating to air pollution for Public Health engineers and offer special short courses.

Surveys of SO_2 content, dust fall and suspended dust, supplied to the municipality and to the State Secretariat for Public Health.

Comments:

Receives financial support from WHO, the State Secretariat for Public Health and the Sanitary Works Ministry.

AR	006	ACD	~~A~~ ~~B~~ C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	1/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Research Center on Environment Engineering
Centro de Investigacion de Ingenieria Ambiental

ACRONYM: INTI

See also

ADDRESS:
Libertad 1235, Buenos Aires

Tel:

AFFIL:
National Institute of Industrial Technology

Title	PERSONNEL	Function
	J. C. Duran	Director

AP aims and actions:

Surveys beginning in 1964, conducted jointly with Sanitary Engineering Institute (AR005)

Comments:

AUSTRALIA

GENERAL AIR POLLUTION BACKGROUND*

Geography

The Australian Commonwealth, comprising the island continent of Australia and the island of Tasmania, has an area of 2,967,902 square miles. Of this total area, nearly 39 percent lies within the tropics.

Because of the moderating effects of surrounding oceans and the absence of very extensive mountain masses, the Australian climate is generally more temperate than that of the other large land masses in the world. Consequently, the need for domestic heating is not acute, and pollution from this source has never been a problem. Much of the interior is either arid or devoted to agriculture, and, as a result, a large majority of the population, as well as industrial development, are confined to the coastal plains, which form a narrow rim surrounding most of the continent.

Australia is largely a city-dwelling nation, and more than 60 percent of the total population live in only nine cities. Over 83 percent of the total population of 12 million live in urban areas. Over half are in the state capital cities, and almost 65 percent of the population is centered in the southeastern states of New South Wales and Victoria, where the principal cities are Sydney, with a population of 2.75 million, and Melbourne, with 2.4 million. Furthermore, in New South Wales the recent annual population growth of the metropolitan areas of Sydney, Newcastle and Wollongong has been 94.5 percent of the total. It is clear, therefore, that the purity of urban air is an influence on the environment of a major and increasing proportion of the people.

Public awareness of air pollution has become more acute in recent years because of a clearly visible smoke pall found over the large cities on many mornings. Meteorological factors aggravate the condition in the New South Wales cities of Sydney, Newcastle and Wollongong, which are the principal areas of industrial development. The latter two are the main centers of the Australian primary iron and steel industry, and a large copper smelter is located in the area. Both cities have recently become the sites of large complexes manufacturing sulfuric acid and **associated** fertilizers. In the other regions of Australia, industry tends to be less concentrated, and air pollution is, for the most part, less of a concern.

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*This review is based on information supplied by Mr. R.P. Murphy of the Air Pollution Control Branch, New South Wales, and Professor Werner Strauss of the Clean Air Society and the University of Melbourne.

In summer on the southeastern coast, stagnating inversions often persist for relatively long periods. On occasion during the winter, the moist low-velocity maritime winds that prevail are replaced during the night by currents flowing down from the Great Dividing Range near the coast. Under these conditions, low-level temperature inversions occur frequently in the early morning. Visible pollution is found on these occasions, but the inversions usually do not persist after midmorning.

Political Features

Clean air legislation in Australia has been confined to the individual states, and until very recently the Federal Government of the country had no direct involvement. Air pollution is a problem in relatively small regions, remote from interstate boundaries. Thus, at this stage the matter is essentially a local one and handled on a basis of state or local authority. It is recognized, however, that if the problem should develop to such an extent that control is beyond the financial capacity of the states, then Commonwealth Government assistance may be both desirable and necessary. In recent years, legislation to control air pollution has been passed by all state governments with the exception of Tasmania, and the differences between the Clean Air Acts of the various states may become more significant in the future.

In 1968-1969, the Senate Select Committee of the Commonwealth Parliament completed an inquiry into air pollution in Australia. The committee considered that within the existing constitutional framework, involving a federation of sovereign states, joint Commonwealth-State action was the only way in which uniformity of policy and standards could be obtained. It was also believed that coordination of research programs in air pollution is necessary to prevent a duplication of projects by the states and Commonwealth.

Present Controls

New South Wales has had legislation for the control of air pollution, particularly for "Smoke Nuisance Abatement," since 1902. Experience showed that implementation was difficult because of vague public nuisance clauses contained in this early law and in later Health and Government Acts in most Australian states. This legislation was unsuccessful in preventing the development of air pollution problems. Following detailed investigations over a period of 6 years into air pollution levels and other related areas of interest, the New South Wales Clean Air Act was passed in December 1961. This Act fulfills the basic requirement for control of air pollution from stationary sources, but it does not override the provisions of earlier acts governing the operation of vessels and motor vehicles. An amendment to cover these needs is being drafted. The principal provisions of the Clean Air Act are:

(1) The Act establishes an Air Pollution Advisory Committee, which advises the Minister and the Under Secretary of the Department of Public Health on regulations and on any matter relating to the administration of the law. AUS-11

(2) Limits of emission of air impurities are prescribed by the Regulations. Where such standards have not been established, the "best practicable means" of preventing pollution is to be used.

(3) Certain types of industries which are known to be major sources of air pollution are required to be licensed and to pay a fee. These premises are listed in the schedule to the Act, and are termed the "Scheduled Premises." The fees range from $10 to $1000 per annum depending on the output of products or on the consumption of fuel.

(4) For scheduled premises, the legislation is implemented by the New South Wales Department of Public Health.

(5) For nonscheduled premises, the legislation is implemented by local councils although the Health Department can still initiate action if it so desires.

(6) Prior approval by the Department of Public Health is required for new scheduled premises or for major process changes on existing scheduled premises. Prior approval by the local council is required for the installation of new fuel-burning equipment on nonscheduled premises.

Victoria is the only state with legislation providing for the control of emissions (other than smoke) from automobile exhausts. Its present Clean Air Act, modeled to some extent on the British Clean Air Act, came into force on March 1, 1958. This law was amended in 1961 and 1962, and regulations under the Victorian Act were officially published in 1958, 1961, and 1965. Emphasis is now on control by emission limits, but there are still some notable differences between the Victorian Act and the New South Wales legislation. Industrial premises are not scheduled, they do not pay license fees, and approval of the Commission of Public Health is required (at least in theory) for any new industrial plant.

Clean Air Acts passed in Queensland in 1963 and Western Australia in 1964 were modeled closely on the New South Wales Act. One difference in both instances is that these states set up Governing Committees with direct administrative authority in lieu of the advisory function which characterizes the New South Wales Committee. In South Australia, clean air legislation enacted in 1963 generally parallels that in Victoria. Provisions for licensing have not been included.

Administration

In Australia, responsibility for implementing clean air legislation has been vested with central control agencies set up within the Health Departments of the individual State Governments, and with local government authorities.

The responsibility of the latter is usually confined to the control of smoke density and grit emissions from the smaller fuel-burning plants. Local government officials work closely with the central control agency, receiving specialized technical support from the agency.

The policy of the Australian Government has been to implement the Clean Air Act by persuasion and cooperation. This policy has been successful in inducing many companies to take the steps necessary for control of the problem. The penal provisions of the legislation have been invoked in only two instances in New South Wales after all attempts at persuasion had failed.

The emission limits prescribed in New South Wales are based on the concentration of a contaminant in the exhaust gases from a plant. Regular chemical and dust emission tests in the exhaust flues have been conducted since the regulations were published officially, and the order of emissions for almost all types of plant emitting air pollutants is now known. Emission limits have been prescribed for smoke, fly-ash and other solid particles, sulfur trioxide, sulfuric acid mist, fluorine compounds, chlorine, hydrogen sulfide, oxides of nitrogen and toxic metal compounds.

Trends

Studies of the effect of weather conditions on gaseous and suspended air pollutants in the southeastern coastal area have shown a strong correlation with geographical location. More intensive investigations of this type are planned in collaboration with the Commonwealth Bureau of Meteorology. AUS-07 New satellite towns with a projected population of 500,000 people are to be developed at locations approximately 30 miles from Sydney, and data on the micrometeorology of these areas is to be obtained to assist in determining the best lines of industrial expansion and related residential growth. Similar considerations will be taken into account in the erection of a large new steel works in an undeveloped area.

Since 1965, clean air legislation has brought about substantial improvements in many industrial emissions. Improved combustion techniques have greatly reduced pollutants from ceramic works near urban areas. City power stations have been converted to oil, and new units built away from the cities. Bag filters and precipitators have markedly decreased the emission of metal and oxide dusts of zinc, lead, copper, and iron. Process changes and operating controls have resulted in similar decreases in black smoke from petroleum refineries and in chemical pollutants from the manufacture of acids and fertilizers.

Controls on motor vehicle emissions have been delayed, in view of the demonstrated interaction between lowered carbon monoxide production and increased emissions of nitrogen oxides. As a first step, New South Wales has followed the example of Victoria (Melbourne) in requiring that all new cars registered after July 1970 be equipped with positive crank case ventilation devices. Further action directed toward the control of emissions from the exhaust pipes of both petrol and diesel engines is being investigated.

During the Cook Bi-Centennial Exposition in 1970, peak concentrations of carbon monoxide comparable to those in major cities in the United States and other countries were observed in periods of very high traffic density. Concentrations of photochemical oxidants were measured at intervals toward the close of the year, and oxidants were continuously monitored in 1971.

Several states are considering legislation to consolidate the regulations for stationary emissions and automotive pollutants. In Victoria, regulations prescribing limits of emission are being formulated at the present time. Tasmania is the only state with no air pollution legislation; but a Director of Environmental Pollution Control has been appointed and legislation is in preparation.

These changes have been brought about in part as a result of increasing public awareness of air pollution as a problem. As an illustration, the new 24-hour complaint service instituted in Sydney received 3000 telephone calls during its first 6 months of operation in 1970-1971.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

The size of Australian control agencies varies from 40 members in AUS-01
New South Wales to 8 in Victoria and from 1 to 3 in the other states. AUS-02
The central organization in New South Wales is the Air Pollution Control AUS-01
Branch, which is part of the Division of Occupational Health of the
Department of Public Health. In the Control Branch, engineers with
extensive industrial experience investigate the operation of equipment
emitting air pollutants and study proposals for the installation of
new plants; source testing is conducted regularly by teams of chemists
assisted by technical officials. Considerable effort is devoted to the
design and construction of improved air pollution monitors.

At the Control Branch, research on all aspects of air pollution and
its control has resulted in some 50 papers. Field surveys and investiga-
tion of the control of specific process emissions have had an important
influence on the enactment of new legislation. Many of these studies
have involved active cooperation with industrial or trade association
groups such as the National Industry Council on Environmental Quality, AUS-20
the Australian Clay Products Association, the Electricity Supply Associa- AUS-23
tion of Australia, and the Petroleum Industry Environmental and Conservation AUS-25
Executive. Each of these groups has as one of its major objectives the AUS-26
investigation of means to reduce emissions. Company programs have been
instituted by firms directly concerned, either individually or cooperatively AUS-35
through the various trade groups.

With headquarters in Melbourne, the Commonwealth Bureau of Meteorology AUS-07
provides basic data for all State Departments and Committees and for
related survey programs. It also conducts research projects of its own,
including the development of new methods of acoustic sounding for the
detection of inversions. Its Division of Mineral Chemistry has a series AUS-08
of programs on (1) unusual difficulties encountered in collecting fly ash
from certain Australian coals, (2) fluid bed combustion or improved storage
procedures in the handling of the washing rejects from high-ash coal, and
(3) mechanism studies in the chemistry of gaseous pollutant reactions in
the atmosphere. The Division of Meteorological Physics conducts research AUS-09

on atmospheric turbulence and processes at the higher altitudes.

The Air Pollution Advisory Committee in New South Wales, the senior AUS-11
organization in Australian air pollution control, is very active. Its
membership of 12 includes: J.C. Cummins, Director General of Public
Health, as Chairman; R.P. Murphy, Principal Engineer of the Air Pollution
Control Branch, as Executive Member; two representatives each from the
universities, manufacturers' associations, and the labor council; a
chemical engineer; a fuel technologist; and an official from local
government. This committee acts upon each application for new plants
and exemptions, makes recommendations for new procedures and legislation,
and coordinates the activities of all government and private organizations
concerned.

Clean Air Conferences sponsored by the New South Wales Department of AUS-01
Health and the University of New South Wales were held at Sydney in 1962 AUS-45
and 1965. A third, in 1969, was cosponsored by the Clean Air Society of
Australia and New Zealand. This organization is a technical society,
affiliated with the International Union of Air Pollution Prevention Assoc- AUS-30
iations; it holds its own meetings and publishes a quarterly journal, X-23
Clean Air.

A strong academic program in the theoretical and applied aspects of
air pollution is conducted at the University of Melbourne, Department of AUS-41
Industrial Science, under Professor Werner Strauss, who is also the editor
of Clean Air. Related programs are carried out at this University by the
Departments of Mechanical Engineering, Meteorology, and the Faculty of Law. AUS-42
At the University of New South Wales, another effective program in AUS-44
Environmental Engineering is directed primarily toward problems relating AUS-45
to the disposal of solid wastes. At Macquarie University, emphasis is AUS-41
on the relation of climatology to air pollution effects, and at Wollongong
University College the Department of Electrical Engineering is studying AUS-45
electrostatic precipitation.

AUS 001 COV ~~A~~ ~~B~~ ~~C~~ ~~D~~ ~~E~~ F ~~01~~ ~~02~~ ~~03~~ ~~04~~ 05 11 ~~12~~ 13 14 ~~15~~ ~~21~~ ~~22~~ ~~23~~ ~~24~~ ~~25~~ ~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~ ~~L~~ M S ~~1~~ 2 3 4.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Air Pollution Control Branch
Division of Occupational Health & Pollution Control

ACRONYM
See also

ADDRESS
NSW Department of Health
Joseph Street
Lidcombe, N.S.W. Australia 2141

Tel 649-2222

AFFIL

Title	PERSONNEL	Function
Mr.	R. P. Murphy	Principal Engineer
Dr.	J. R. Harry	Chemical Engineer
Mr.	J. McLeod	Fuel Engineer
Mr.	D. Palmer	Chief Chemist
Mr.	J. Chesworth	Air Pollution Cont. Eng.
Mr.	J. Court	Air Pollution Cont. Eng.
Mr.	A. Campbell	Air Pollution Cont. Eng.
Mr.	B. Greenfield	Air Pollution Cont. Eng.

AP aims and actions

1. Implementing an N.S.W. Clean Air Act, i.e., inspection of major sources, source testing, examination of proposals for new plants and extension of existing ones, directing installation of control equipment and prosecution.
2. Monitoring pollutants in the atmosphere, i.e., SO_2, smoke haze, carbon monoxide, oxidants, suspended dust, dust fall, etc. Development of monitoring instruments.
3. Carrying out research into controls, i.e., inducing process changes, investigating design of control equipment, causes of plant damage, etc.

Comments

Total technical staff: [illegible]
Technical papers on air pollution=67

AUS [illegible] A B ~~C~~ ~~D~~ ~~E~~ F 01 ~~02~~ ~~03~~ ~~04~~ 05 11 12 13 14 15 21 22 ~~23~~ ~~24~~ ~~25~~ ~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~ ~~L~~ M S ~~1~~ 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Clean Air Station
Victorian Health Department

ACRONYM
See also

ADDRESS
[illegible] Queen Street
Melbourne, Victoria, Australia

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible]	Officer in Charge
Mr.	Smith	Deputy O.I.C.
Mr.	[illegible] Holden	Scientific Officer

AP aims and actions

1. Implementing Victorian Clean Air Act.
2. Monitoring pollutants in the atmosphere.
3. Determination of criteria for control emissions from ceramic materials, coffee roasting, lithographic baking ovens, meat rendering plants.

Comments

Total technical staff: [illegible]

AUS 003 GOV A ~~B~~ ~~C~~ ~~D~~ ~~E~~ F 01 ~~02~~ ~~03~~ ~~04~~ 05 11 12 13 14 15 ~~21~~ 22 ~~23~~ ~~24~~ 25 31 ~~32~~ 33 34 ~~35~~ L ~~M~~ S ~~1~~ 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Division of Air Pollution Control
Queensland Dept. of Health

ACRONYM

See also

ADDRESS
484-488 Adelaide Street
Brisbane, Queensland,
Australia 4220

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	A. Gilpin	Director
Mr.	H. Hart	Engineer
Mr.	B. Thiele	Chemist

AP aims and actions

1. Implementing Queensland Clean Air Act.
2. Monitoring pollutants in the atmosphere.

Comments

AUS [illegible] GOV A ~~B~~ ~~C~~ ~~D~~ E F 01 02 03 ~~04~~ 05 11 ~~12~~ 13 14 15 ~~21~~ ~~22~~ 23 ~~24~~ 25 ~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~ L M ~~S~~ ~~1~~ 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Department of Public Health
Western Australia

ACRONYM

See also

ADDRESS
[illegible] Murray Street
Perth, W.A., Australia [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible] H. Macey	Senior Engineer (Clean Air)
Mr.	D. Powell	Scientific Officer

AP aims and actions

1. Advising government and industry on air pollution matters.
2. Monitoring pollutants in the atmosphere.

Comments

AUS	005	GOV	A B ~~C~~ ~~D~~ ~~E~~ F	01 ~~02~~ 03 ~~04~~ 05	11 12 13 14 15	21 ~~22~~ 23 ~~24~~ 25	31 ~~32~~ 33 ~~34~~ 35	L M ~~S~~	1 2 3	3 68	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Dept. of Public Health
South Australia

ACRONYM:

See also

ADDRESS
Director General of Public Health
158 Rundle Street
Rundle St., P.O.Box 56
Adelaide, South Australia 5000

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions

Studies of atmospheric particulate fall-out, SO_2, coefficient-of-haze values in Adelaide and selected industrialized towns.

Comments

AUS	006	GOV	A ~~B~~ ~~C~~ D E F	01 ~~02~~ 03 ~~04~~ 05	11 12 13 14 15	~~21~~ 22 ~~23~~ 24 25	~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~	L M ~~S~~	~~1~~ 2 3	..71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Office of Environmental Pollution Control
Tasmania

ACRONYM:

See also

ADDRESS
Dept. of Labour & Industry
Public Buildings
81-89 Brisbane Street
Hobart, Tasmania, Australia 7001

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	J. Pottinger	Director

AP aims and actions

Advising government and industry on air pollution and other environmental pollution matters.

Comments

AUS	007	GOV	~~A~~ B C ~~D~~ E F	01 02 03 04 05	11 12 13 14 15	21 ~~22~~ 23 ~~24~~ ~~25~~	31 32 33 ~~34~~ 35	~~L~~ M S	1 2 3	4/ 7		S	T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date			

NAME Commonwealth Bureau of Meteorology

ACRONYM

See also

ADDRESS

Box 1289, K. GPO
Melbourne, Victoria, Australia

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	P. J. R. Shaw	Research Officer
Mr.	V. J. Bahr	Regional Director, Sydney

AP aims and actions

Cooperation as required with all State Depart- of Health and Committes on Air Pollution.

Conduct studies of pollutant dispersion, inversion developments (Brisbane, Sydney), acoustic sounding (Melbourne), air pollutants from sewage works (Canberra).

Comments

AUS	008	NAT	~~A~~ ~~B~~ C D E F	01 ~~02~~ ~~03~~ ~~04~~ 05	11 12 13 14 ~~15~~	21 ~~22~~ 23 24 ~~25~~	~~31~~ ~~32~~ ~~33~~ ~~34~~ 35	~~L~~ M S	~~1~~ 2 3			S	T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date			

NAME Commonwealth Scientific and Industrial Research Organization

Division of Mineral Chemistry

ACRONYM [illegible]

See also

ADDRESS

P.O. Box 175, Chatswood N.S.W. 2067

P.O. Box 124, Port Melbourne 3207

Tel

AFFIL

Government of Australia

Title	PERSONNEL	Function
Dr.	D. F. A. Koch	Acting Chief
Dr.	E. C. Potter	Sr. Prin. Res. Scientist
Dr.	H. F. R. Mulcahy	" " " "
Dr.	P. L. Walters	" "
Dr.	G. M. Lukaszewski	" " " "

AP aims and actions

Sydney Laboratories:

effects of individual coals on problems of fly ash removal by electrostatic precipitation; effects of O atoms and H atoms in chemistry of atmospheric pollution; fluidized bed combustion of coal and high-ash rejects.

Melbourne Laboratories:

problems of coal-washery rejects.

Comments

publishes technical papers, educational films

AUS 009 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.68 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Commonwealth Scientific and Industrial Research Organization
Department of Meteorological Physics

ACRONYM: CSIRO
See also

ADDRESS
Station Street
Aspendale S.13, Victoria

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	A.J. Dyer	Research Officer

AP aims and actions

Conducts fundamental research in atmospheric turbulence and transport properties.

Studies on the radio activity of rainfall, and associated research on high atmosphere movements.

Comments

AUS 011 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Air Pollution Advisory Committee, New South Wales

ACRONYM
See also

ADDRESS
% NSW Dept. of Health
Joseph Street
Lidcombe, N.S.W., Australia 2141

Tel

AFFIL
Reports to Minister for Health

Title	PERSONNEL	Function
Chairman	J.C. Cummins	Dir. Gen. of Public Health
Exec.	R.P. Turner	Princ. Engr. AP Control Branch
Prof.	[illegible]	Univ. of New South Wales
Dr.	A. Bell	Dept. of Public Health
	A. Cornish	Chamber of Manufacturers
	C. Hopkins	Chemical Engineer
	M. Hunt	Fuel Technologist
	F. J. Hynes	Dept. of Local Government
	R.J. McFarlane	Metal Trades Employers
	A. MacLagan	Labor Council of N.S.W.
	Dr. T. Wood	University of Sydney

AP aims and actions

Conducts detailed discussions with industry, equipment suppliers and others interested on new legislation, regulations, and applications and requests for exemptions; new developments in air pollution control; analysis of monitoring data and trends in air pollution control.

Makes specific recommendations to the Minister and the Control Branch.

Advisory Committees along the lines of NSW authorized by legislation in all other states, except Tasmania.

AUS 020 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME National Industry Council on Environmental Quality

ACRONYM

See also

ADDRESS
Associated Chamber of Manufactures
Industry House
Canberra, A.C.T.

Tel

AFFIL

Title	PERSONNEL	Function
	W. Henderson	Governor

AP aims and actions

National Standardization of measurement and monitoring for air and water quality

Represent member groups in government environment studies

Determine needs and source for ecology-trained specialists in industry

Comments

Member groups: A = Australia(n)
Associated Chamber of Manufactures
A. Chemical Industry Council
A. Mining Industry Council
Metal Trades Industry Assn. of A.
National Packaging Assn. of A.
Petroleum Information Bureau
Printing and Allied Trades Employees Federation of A.

AUS 021 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Australian Industry Council for Environmental Quality
New South Wales Division

ACRONYM

See also

ADDRESS
Chamber of Manufactures
12 O'Connell St.
Sydney, N.S.W.

Tel

AFFIL
See AUS 020

Title	PERSONNEL	Function
	J. Lyndhurst	Secretary

AP aims and actions

Same as for National Industry Council (AUS 020) represents N.S.W. industries which do not have a federal body.

Comments

AUS 022 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 / / S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Victorian Chamber of Manufactures
Environmental Committee

ACRONYM

See also

ADDRESS
370 St. Kilda Road
Melbourne, Victoria 3000

Tel

AFFIL
See AUS 020, 021

Title	PERSONNEL	Function
	D.A.B. Phillips	Secretary

AP aims and actions
represents regional industries

Comments

AUS 023 ASN A B C D E [✓ F] 01 02 03 [✓ 04] 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Australian Clay Products Association, Ltd.

ACRONYM

See also

ADDRESS
30 Ash St.
Sydney, N.S.W.

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions
Represents industry in cooperative studies
of emissions control, dusts and gases, and
in new process developments.

Comments

AUS 024 ASN ~~A~~ B C ~~D~~ E ~~F~~ 01 ~~02~~ 03 ~~04~~ 05 11 12 ~~13~~ 14 ~~15~~ 21 22 23 24 25 31 ~~32~~ ~~33~~ ~~34~~ 35 L M S 1 2 3
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Australian Coal Industry Research Laboratories, Ltd.

ACRONYM

See also

ADDRESS
P.O. Box 169
Chatswood, N.S.W.

Tel

AFFIL
National Coal Research
Advisory Committee

Title	PERSONNEL	Function
	A. H. Hams	Director of Research
	K. M. Sullivan	

AP aims and actions

Studies and direct assistance to users in the design, modification, and operation of coal-burning equipment to reduce or eliminate emissions.

Special studies on coal-fired clayware burning kilnus, improved feeding, air supply controls, grit and soot collectors.

Comments

AUS 025 ASN ~~A~~ ~~B~~ C ~~D~~ E ~~F~~ 01 ~~02~~ 03 04 05 11 12 ~~13~~ ~~14~~ ~~15~~ ~~21~~ 22 23 24 25 31 ~~32~~ ~~33~~ ~~34~~ 35 L M S 1 2 3
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Electricity Supply Association of Australia

Grit and Dust Emission Committee

ACRONYM

See also

ADDRESS
c/o Electricity Commission, Head Office
N.S.W.
15 Castlereagh Street, Sydney, N.S.W.

Tel

AFFIL

Title	PERSONNEL	Function
	F. Brady	Convener of Committee

AP aims and actions

Collection and dissemination of information on emissions from power stations (legislation and public relations).

Exchanges of technical information, coordination of projects.

Studies of Boiler flue gas conditioning.

Studies of brown-coal-fired power station boilers (at Herman Central Scientific Lab, Richmond, Victoria).

Comments

Committee normally deals only with matters directly concerning [illegible] Association members [illegible] Chairman of the [illegible]

AUS	026	ASN	A [✓ B] C D E [✓ F]	[✓ 01] [✓ 02] [✓ 03] 04 05	11 12 13 14 [✓ 15]	[✓ 21] 22 23 24 25	31 [✓ 32] 33 34 35	L M S	1 2 3	6 71
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

S T

NAME Petroleum Industry Environmental & Conservation Executive:
Industrial and Domestic Emission Sub-Committee

ACRONYM P.I.E.C.E.

See also

ADDRESS
Petroleum Information Bureau (Aust.)
38-40 Martin Place
Sydney, N.S.W. 2000

Tel

AFFIL Member companies are Amoco, Ampol, Boral, Brit. Petroleum, Caltex, Esso Stand. Oil (Aust.), Golden Fleece, Mobil, Aust. Petr. Exploration Assn.

Title	PERSONNEL	Function
Mr.	J. M. Flower	Secretary, P.I.E.C.E. (277 Collins Street, Melbourne, Victoria 3000)

AP aims and actions

Cooperation with Conservationist groups towards understanding of emission qualities desirable and attainable.

Encourage regulations to achieve reasonable standards, assist users to meet existing regulations, and work towards reasonable standards where no regulations exist.

Ensure that every industry installation meets at least the standards required.

Comments

Public relations activities with pollution control as a current major interest.

AUS	030	SOC	[✓ A] [✓ B] C D E F	[✓ 01] [✓ 02] [✓ 03] [✓ 04] [✓ 05]	[✓ 11] [✓ 12] [✓ 13] [✓ 14] [✓ 15]	21 [✓ 22] 23 [✓ 24] [✓ 25]	[✓ 31] [✓ 32] [✓ 33] [✓ 34] [✓ 35]	[✓ L] M S	[✓ 1] 2 3	4/71
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

S T

NAME Clean Air Society of Australia and New Zealand

ACRONYM

See also

ADDRESS
c/o Box 130, P. O.
Lidcombe, N S.W. 2141
Australia

Tel

AFFIL Int. Union Air Pollution Prevention Assoc.

Title	PERSONNEL	Function
Mr.	J. S. Schroder	President
Dr.	J. Harry	Fed. Secretary
Dr.	K. Basden	Fed. Treasurer
Dr.	W. Strauss	Editor, Journal

AP aims and actions

Technical Society: Holds meeting, and triannual conferences; has Branches in N.W.S., Victoria and New Zealand (1970); publishes quarterly journal, Clean Air (26-36 pages/issue).

Comments

AUS 035 IND A B C [✓ D] E F 01 02 03 04 05 11 12 13 14 15 21 22 23 [✓ 24] 25 31 [✓ 32] [✓ 33] [✓ 34] 35 L M S 1 2 3 6 71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Howard Cock & Associates Pty. Ltd.

ACRONYM:

See also

ADDRESS:

151 Northern Road
West Hidelberg,
Melbourne, Victoria

Tel:

AFFIL:

Title	PERSONNEL	Function

AP aims and actions:

Consulting chemist in air pollution control activities, measurements of air pollution.

Comments:

AUS 036 IND A B C D E F 01 [✓ 02] [✓ 03] [✓ 04] 05 11 12 13 14 15 21 22 23 24 25 31 32 [✓ 33] [✓ 34] 35 L M S 1 2 3 3.62 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: J. D. McDonald Engineering Co. Pty. Ltd.

ACRONYM

See also

ADDRESS

4 Paran Place
Glen Iris,
Victoria

Tel

AFFIL

Title	PERSONNEL	Function
	W. C. Warren	Director

AP aims and actions

Incinerator engineers, improvements in pollution control

Comments

AUS	040	ACD	~~A~~ B C D E F	01 02 03 04 05	11 12 13 14 15	21 ~~22~~ 23 ~~24~~ 25	31 32 33 34 35	L ~~M~~ S	1 ~~2~~ 3	4/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Macquarie University - School of Earth Sciences

ACRONYM:

See also

ADDRESS:
North Ryde, N.S.W. 2113
Australia

Tel (02)-887000

AFFIL

Title	PERSONNEL	Function
Assoc/ Prof	E. T. Linacre	Assoc. Prof. of Climatology

AP aims and actions:

Study of synoptic weather patterns for predicting inversions.

Examining sea breezes.

Study of katabatic flow from Hawksbury up the Paramatter River.

Use of model aircraft for atmospheric temperature measurements.

Optical measurements of surface temperatures from aircraft.

Comments:

AUS	041	ACD	~~A~~ ~~B~~ C D E F	~~01~~ 02 ~~03~~ ~~04~~ 05	11 ~~12~~ ~~13~~ 14 15	21 ~~22~~ 23 24 25	31 32 ~~33~~ ~~34~~ 35	~~L~~ M S	~~1~~ 2 3	4/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: University of Melbourne - Dept. of Industrial Science

ACRONYM

See also

ADDRESS
Parkville, Victoria 3052
Australia

Tel (03)-340-6875

AFFIL

Title	PERSONNEL	Function
Dr.	W. Strauss	Head of Department
Dr.	J. Bogg	
Mr.	J. R. Alonso	
Mr.	J. Killip	

AP aims and actions:

Research into scrubbing mechanisms, SO_2 control, high temperature gas cleaning.

Formation and decomposition of nitrogen oxides.

Pollution source surveys.

Social and economic costs of pollution and control.

Full time post graduate school in Air Environment Studies leading to M.App. Sc.

Comments:

Editor - W. Strauss (i) Clear Air - Quart. J. of Clean Air Society of Aust. & N. Z. (ii) Air Pollution Control - series of monographs (Wilev-Interscience, New York).

AUS	042	ACD	~~A~~ B C D E F	~~01~~ 02 03 04 05	11 12 13 14 15	21 ~~22~~ 23 24 25	31 32 33 34 35	L M ~~S~~	1 ~~2~~ 3	4/71		S	T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date			

NAME: University of Melbourne - Dept. Mechanical Engineering

ACRONYM:

See also

ADDRESS:
Parkville, Victoria 3052
Australia

Tel: (03)-340484

AFFIL:

Title	PERSONNEL	Function
Dr.	H. C. Watson	

AP aims and actions:

Measurement of emissions from automobiles using gas chromatography.

Comments:

	043	ACD	~~A~~ B C D E F	01 02 03 04 05	11 12 13 14 15	~~21~~ ~~22~~ 23 ~~24~~ 25	31 32 33 34 35	L ~~M~~ S	~~1~~ 2 3	4/71		S	T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date			

NAME: University of Melbourne - Dept. of Meteorology

ACRONYM:

See also

ADDRESS
Parkville, Victoria 3052
Australia

Tel (03)-340484

AFFIL

Title	PERSONNEL	Function
Dr.	U. Radok	Head of Department

AP aims and actions:

Development of sonar methods of measuring inversions.

Comments:

AUS	044	ACD	~~A~~ ~~B~~ C D E F	01 02 03 04 05	11 12 13 14 15	~~21~~ 22 23 24 25	31 32 33 34 35	L M ~~S~~	1 ~~2~~ 3	4/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: University of Melbourne - Faculty of Law

ACRONYM:

See also

ADDRESS
Parkville, Victoria 3052
Australia

Tel (03)-340484

AFFIL

Title	PERSONNEL	Function
Mrs.	A. Lanteri	

AP aims and actions:

Investigation of air and water pollution legislation.

Comments:

AUS	045	ACD	~~A~~ ~~B~~ C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	~~31~~ ~~32~~ 33 34 35	~~L~~ M S	~~1~~ 2 3	4/71	
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: University of New South Wales - Department of Fuel Technology

ACRONYM

See also

ADDRESS
P. O. Box 1
Kensington, N.S.W.
Australia

Tel

AFFIL

Title	PERSONNEL	Function
Assoc/ Prof	N. Y. Kirov	Head of Department
Dr.	K. Basden	
Dr.	G. Sargeant	

AP aims and actions:

Problems associated with solid waste disposal and incineration, pyrolysis of solid wastes.

Full and part-time course in Environmental Engineering leading to M.App. Sc. degree.

Comments

AUS	046	ACD	[✓ A] B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 [✓ 34] 35	L [✓ M] S	1 [✓ 2] 3	4/71	S T
Country	No	Type	Function	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Wollongong University College - Dept. of Electrical Engineering

ACRONYM:

See also

ADDRESS
Wollongong 2500
Australia

Tel: 2-7301

AFFIL:

Title	PERSONNEL	Function
Mr.	O. J. Tassicker	

AP aims and actions:

Measurement of electrostatic precipitation characteristics of dusts (for Electricity Commission, N.S.W.).

Comments:

AUSTRIA

Text page	Corrections
8 (A-1)	First paragraph, line 2. Change to: inspektorat) to ensure Second paragraph, line 5. Change to: consideration Last paragraph, line 4. Change to: Geodynamics
10 (A-4)	Bottom left. Delete initials and date

Card No.	Corrections
(A-033)	Add to aims and actions: Chemical Plant Engineering Division: dust collection, vent gas recovery by charcoal adsorption, odor control in sulfate pulp processing.

A 001 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.71 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BUNDESMINISTERIUM FÜR SOZIALE VERWALTUNG
Federal Ministry for Social Affairs.

ACRONYM:
See also

ADDRESS 1010 WIEN
Stubenring 1.

Tel (02.22) 57.56.55
AFFIL

Title	PERSONNEL	Function
Dr.Med.	F. Bauhofer	director
Dr.	J. Daimer	director of Public Health Dept.*
Dr.	P. Vychytil	
Prof.Dr	J. Schedling	tech. cttee. chairman(A.[illegible])
	Approx. 7 P/NP	

AP aims and actions
Maintains awareness of effects of AP on public health. Comments on proposed legislation from health aspect.

Comments
- * Sektion V: Volksgesundheit.

. Bundesministerium für Soziale Verwaltung

6.71

A [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.71 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ÖSTERREICHISCHE MINERALÖL-VERWALTUNG AG
Austrian Petroleum Administration Inc.

ACRONYM: ÖMV
See also

ADDRESS [illegible] WIEN,
Otto Wagner Platz 5. •

Tel [illegible]) 42.36.21
AFFIL

Title	PERSONNEL	Function
Dr.	Grünwald	
Dr.	H. Schönfellinger	

AP aims and actions
Advice on gasoline quality aspects of AP.

Comments
The national oil company.
- * Refinery at 2320 SCHWECHAT.

Well-equipped with automotive emission test facilities.

A.030 ÖMV

6.71

BELGIUM

GENERAL AIR POLLUTION BACKGROUND

Geography

This densely populated country in the "cockpit" of Europe has a long history of industrialization. The traditional regions for the production of coal and iron lie in the east and south, from Liege (Luik - Fl)* to Mons. Bricks and textiles and, more recently, chemicals are manufactured near Ghent*, while Antwerp (Anvers - Fr)* in the north is a rapidly growing port and industrial area, especially for petroleum refining.

With the decline of the coal industry and the concomitant growth in the production of petroleum and associated chemicals, there has for some years been a trend in activity away from the southeast and toward the north in Belgium - a trend which is paralleled by new emphasis on air pollution control. An initiative for industrial renewal in the south has recently appeared, however.

Political Features

The dual-nation character of Belgian political life, which has become acute over the past few years, has produced a trend toward political decentralization and has also led to the duplication of many public offices and other organizations. Not only must all public organizations be named in both French and Flemish, but separate subdepartments or offices are often established to deal separately with the two communities (see, for example, CÉBÉDAIR and BECELU). B.030 B.031

Though technical information and opinions tend to be fragmented, some members of parliament are pressing for tighter environmental controls, largely as a result of a few air pollution incidents in the past year or so. As indicated below, proposals to limit domestic sulfur oxides emissions in the big towns have been introduced.

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*With two languages in Belgium, the names of many towns exist in two versions, one French and the other Flemish. The English names used in the present text sometimes provide a third, as with Gent (Fl), Gand (Fr), Ghent (Eng).

Present Controls

National

The Clean Air Act of December 28, 1964, initiated by the Ministry of Public Health, is a basic law (Loi de Cadre), providing a framework for individual decrees to bring into effect its broadly written provisions, which are summarized in Appendix A.

Despite the passage of the Clean Air Act, only one decree has, as yet,
appeared under this legislation. Established on December 13, 1964, this
measure set forth the requirements for the approval of laboratories and
institutions to undertake official air pollution work. The official
publication of February 22, 1968, lists eight laboratories which are
officially approved - in addition to that of the Ministry of Health itself. B.006
These facilities are the municipal laboratories of Antwerp and Ghent, B.015
the laboratory of toxicology at the University of Liege, the intercommunal B.020
laboratory at Charleroi, the physical chemistry laboratory of the
Institute of Mines at Paturages, and the laboratories of the Association B.009
Vincotte and of CÉDICOL in Brussels and of CÉBÉDEAU at Liege. B.025
B.023

The Official Gazette published on July 29, 1971, a decree enforcing the Common Market limits for automotive emissions. The prescriptions are effective for new car models the registration of which will be applied for after October 1971. Models for which registration was obtained before that date must meet the new prescriptions on all deliveries made after October 1973.

Earlier specific legislation against emissions from motor vehicles was directed against smoke emissions. Two Decrees, initiated by the Transport Division of the Ministry of Communications, were promulgated in

June and July 1964, just before the Clean Air Act mentioned above. The essential provisions of the two Decrees are described in Appendix B.

Still older Decrees, dated February 11, 1946, and September 27, 1947, which are general regulations for the protection of workers, relate the stack height to the temperature and sulfur-dioxide content of flue gases for certain ore-roasting or agglomeration activities in the zinc and lead industries.

Local*

All industrial enterprises require an operating license. For Class II industries, the license must be requested from the Municipal Authorities (College van Burgemeester en Schepen - Collège des Bourgmestres et Echevins); for Class I industries, from the Provincial Authorities (Bestendige Deputatie - Députation Permanente). For enterprises classified in Class D, a declaration must be addressed to the Governor of the Province. Classification takes danger and nuisance risks into account. These risks are greatest in Class I, and greater in Class II than in Class D. Officials from whom licenses have been requested are required to seek advice from competent technical officials, such as engineers in the Work Safety Administration, inspectors B.004 in the Ministry of Public Health, or engineers from the explosives service B.003 of the Ministry of Economic Affairs, who have also to request advice from the Ministries of Labour, Health, Agriculture or Defense, depending upon the type of industry involved. For the most dangerous industries in Class I, such as mining and explosives factories, there are special procedures.

Some local officials make full use of their ability to grant operating licenses. For example, the Antwerp provincial authority requires new stacks to be calculated according to the VDI 2289 with a 95-percentile 24-hour SO_2 value of 420 μg. The same organization also sets limits on ethylene concentrations, both for leaks and stack emissions. A trend to more consistent actions by local authorities can be expected.

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*There are nine Provinces (West and East Flanders, Antwerp, Limburg, Brabant, Hainaut, Namur, Liège and Luxembourg) and five principal towns (Brussels, Antwerp, Ghent, Charleroi and Liege).

An old law in Belgium requires an individual to assist anyone who is in danger. It has been suggested that this should be extended to require an industrial plant to advise the local population about incidents that might be dangerous, for example, fire or pollution. Another old law (1790) requires the Burgomaster to safeguard the public health within his commune and to enter a works and to shut it down in circumstances that might present a local danger. This law could be operated through the more modern Labour Inspectorate but, because of its ruthless nature, is not in fact so employed. B.005 Nevertheless, in Antwerp a system is in force whereby the local police or fire authorities must be advised of pollution B.014 incidents so that appropriate assistance can be rendered or the local population can be assured that control measures are being taken.

Trends

Current Interests

Newspapers in Belgium make much of environmental pollution incidents, and local political concern and the initiative of a few politicians are leading to specific developments. The Antwerp "Centrum tegen Lucht etc" B.025 is one result of this. Nationally, there are moves toward more specific regulations, especially against smoke, lead and sulfur oxides emissions. In Parliament, a group is pressing for stronger laws for environmental conservation, coordinated with actions in other countries.

Proposed Controls

The 1946-1947 Decrees controlling the stack height for certain industries are in the process of being brought up to date. It is proposed that all industries shall be classified according to their energy consumption, each with appropriate limitations for the emission of smoke, sulfur dioxide, and other pollutants. This action is expected to bring about a consistent approach throughout Belgium in the conditions attached to industrial operating licenses. As indicated above, Antwerp is already updating the conditions for granting operating licenses in its industrialized area. Limitation of the emission of carbon monoxide from cars at idle is expected shortly. This regulation is likely to be 5.5 percent by volume maximum at first, reducing to 4.5 percent within a year or so.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

At the highest governmental level, the Commission Interministérielle B.002
de Coordination en Matieres de Pollution de l'Air (Interministerial
Commission for Air Pollution), under the chairmanship of Dr. Halter,
coordinates governmental action for the prevention and abatement of air
pollution. This Commission is responsible for preparing implementation
decrees and submitting to the Ministry of Public Health any proposal
likely to reduce or prevent air pollution.

To coordinate commercial, industrial and specialist opinions, there
is also the Counseil Supérieure de L'Hygiène Publique (Supreme Council B.001
for Public Hygiene). This central consultative body, whose opinions are
highly respected, is made up of experts from universities, medical
practice, and other related fields, with Dr. Halter from the Ministry of
Public Health as secretary.

The Ministérie de la Santé Publique (MSP - Ministry of Public Health) B.003
is responsible for the introduction of air pollution regulations. The
Secretary General, Dr. Halter, draws counsel from the Interministerial
Commission and the Supreme Council for Public Hygiene.

The MSP is also responsible for the Institut d'Hygiène et d'Epidem- B.011
iologie (Institute of Hygiene and Epidemiology), whose Environmental
Department undertakes the coordination and interpretation of air pollution
surveys in Belgium. This Institute works closely with the Institut Royal
Meteorologique de Belgique (Royal Belgian Meteorological Institute), which B.012
collates the survey data on its computer and arranges for publication of
the information in the official Monthly Bulletin.

Whereas the Ministry of Public Health is mostly concerned with problems
of urban pollution, at least for the present, questions of industrial hygiene
are mainly the responsibility of the Ministry of Labour's Administration
de la Sécurité du Travail (Work Safety Administration), particularly with B.004
regard to working conditions within industrial premises.

Inspection of factories for compliance with the conditions of
operating licenses is the concern of the Inspection du Travail: B.007
Arbeidsinspectie (Labour Inspectorate). The Labour Inspectorate
checks applications for operating permits and advises the licensing
body (municipal or provincial) on measures to be taken and operating
conditions to be met. It inspects factories for compliance with the
permits, and inquires into complaints, advising authorities on the
results of the inquiry. The Ministry of Labour is directly responsible
for the classification of industries.

The Ministry of Communications (Transport Administration) is active
in the fields of traffic safety; this organization was responsible for
recommending the 1964 controls on vehicle smoke. Periodic vehicle
inspection, especially for smoke emissions from diesels, is carried out
by 10 private concerns, each with a prescribed area of interest. These
concerns, working with the Ministry, help to finance a research organization
called the Fonds d'Études et de Recherches relatives au Problèmes de la B.032
Sécurité Routière, which investigates problems of road safety, including
means of reducing exhaust emissions. Under the Decree of July 29, 1971,
a new organization, however, will deal with emission surveillance, marking
the introduction of EEC regulations.

During the last 10 to 15 years, the growth of new industrial areas
and the pressures for clean air from local political representatives
encouraged the establishment of regional environmental commissions to
coordinate conservation activities and controls in the Provinces most
affected. Such groups are particularly active in Limburg and Antwerp. B.020
The industrial developments around the Flemish port of Antwerp also led B.023
to the establishment of a provincial Centrum tegen Lucht en Water B.025
Verondreiniging (Center Against Air and Water Pollution). Combining the
capabilities of both the Antwerp Provincial and Municipal Laboratories -
the latter, under Dr. Clement, whose responsibility is for the air
pollution aspects - this organization plans an integrated surveillance
and investigatory service for the area. Technical advice is given by
various experts, including professors from the Ghent State University. B.052

Under the vigorous leadership of Dr. Leclerc, the internationally known organization CÉBÉDEAU has long provided a valuable service in water purification, especially in the French-speaking industrial southeast of Belgium. In 1959, a subsection of this organization was established to deal with problems of air pollution: CÉBÉDAIR (Centre Belge d'Étude et de Documentation de l'Air); even more recently, in 1968, a Flemish counterpart, BECELU (Belgische Centrum van der Lucht), was established at Ghent with Dr. Hacquaert as director. CÉBÉDEAU and its air pollution subsections are guided by a scientific committee of industrial and university representatives who select projects and investigations proposed by the Ministry of Public Health, by the Provincial authorities, and by industry, the last usually through IRSIA. Results, where not confidential, are published in La Tribune de CÉBÉDEAU.

Several university institutes are active in the field of air pollution. Of principal interest are the Rijksuniversiteit - Gent (State University of Ghent), with Professors Bosch and Heyndrickx, and the Université de l'État à Liège (State University of Liège), where Dr. Rondia is active. At the École Royale Militaire (Royal Military School), Professor Sibenaler has long been engaged in studies of automotive technology, including exhaust emissions.

There are several associations representing types or groups of industries, for example, the Fédération Petrolière Belge (Belgian Petroleum Federation) [illegible] for the oil industry. Public opinion is coordinated by a small number of social groups, notably the Conseil National contre la Pollution, established [illegible] several years ago by Mr. J. Delcroix.

APPENDIX A

PRESENT BELGIAN LEGISLATION AND REGULATIONS ON AIR POLLUTION

The basic law, the Clean Air Act, bears the date of 28 December 1964 and was gazetted on 14 January 1965.*

This is an outline of the principal Articles.

Art. 1. The King is given the power to take all appropriate measures to prevent or to fight atmospheric pollution, namely:
  to prohibit certain definite forms of pollution;
  to regulate or prohibit the use of equipment or appliances capable of causing pollution;
  to require or to regulate the use of equipment or appliances intended to prevent or to fight pollution.

Art. 2. Atmospheric pollution is defined, so far as the law is concerned, as any emission into the air, whatever the source, of gaseous, liquid or solid substances, capable of affecting human health, of harming animals and plants, or of causing damage to property and to sites.

Art. 3. Royal decrees taken in virtue of Art. 1 are submitted for advice to the Higher Public Hygiene Council. They are to be introduced jointly by the Minister responsible for Public Health and, according to the source of pollution:
  the Minister responsible for mines and underground quarries;
  the Minister responsible for labour;
  the Minister responsible for public works;
  the Minister responsible for transport by road, water, rail and air.
In all other cases, the Minister responsible for public health acts alone. Exceptional rules, however, apply to the Minister for Defence.

Art. 4. Concerns professional qualifications.

Art. 5. The Minister responsible for Public Health is entrusted with the task of co-ordinating the following tasks:
(a) Sampling and analysis of the [illegible] presumed to be polluted;
(b) Research concerning the effects of atmospheric pollution on human beings, animals and plants;
(c) Research on efficient means of fighting atmospheric pollution;
(d) Information of the public.
Tasks (a) to (c) are undertaken in collaboration with laboratories or public or private concerns which have been approved for this purpose by the Minister responsible for Public Health, in agreement with the other Ministers concerned. Task (d) may be entrusted to private organizations approved by the Minister responsible for Public Health.

Articles 6 to 16 concern enforcement and administrative measures.

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* In the Moniteur Belge/Belgisch Staatsblad.

APPENDIX B

BELGIAN LEGISLATION AGAINST AIR POLLUTION BY MOTOR VEHICLES

(a) Royal Decree of 30 June 1964 concerning the Highway Code:

This decree brings a modification to one Article of the highway code concerning motor vehicle exhaust emissions. The new wording is as follows:

> Motor vehicles must be conditioned, maintained and operated in such a way that they do not shed abnormal quantities of oil and combustion waste, that they do not inconvenience the public or frighten animals by noise and that except for transient smoke emissions, caused namely by the starting of the engine or the changing of gears, they do not emit smoke capable of lessening road security or causing [illegible] to the other users of the road.

(b) Royal Decree of 1 July 1964 to define the conditions to be filled by diesel-engined motor vehicles in respect of smoke emission:

Art. 1. Motor vehicles equipped with a diesel motor must conform, as far as smoke emission is concerned, with the provisions of the present decree.

Art. 2. Smoke emission is defined by its opacity, measured by means of a light absorption meter using a photo-electric cell. There follows a definition of the absorption coefficient and a few provisions concerning the instrument.

Art. 3. Concerns the conditions in which a smoke emission must be measured. (Direct reading of the instrument or use of a recording device - no storing of gases to be measured - permission to measure the whole or a sample of the exhaust).

Art. 4. Concerns the method of measurement (high acceleration with gear in neutral, the vehicle remaining stationary) and certain precautions to be taken:
check whether the exhaust system has not been tampered with;
check whether the engine, on acceleration, reaches the normal maximum speed.

Art. 5. Defines the maximum allowable opacity, (an absorption coefficient of 1.280 per metre; approximately 70 Hartridge Units).
This figure is to be lowered later.

Art. 6. The Minister of Communications is responsible for the type-approval of smokemeters and for working out the correspondence between the conventional reading scales of the different types and the theoretical values defined in this decree.

Art. 7. and 8. Concern administration.

(c) Ministerial Decree of 2 July 1964 bearing approval of a laboratory entrusted with the testing of smokemeters for homologation.

Art. 1. This article entrusts the task of proceeding with the tests for the homologation of smokemeters to the Technical Motor Vehicle [illegible] of the State University of Ghent.

Art. 2. Concerns administration

A 071 IND A B C ~~D~~ E ~~F~~ 01 ~~02~~ ~~03~~ 04 05 11 12 13 14 15 21 22 23 ~~24~~ 25 31 ~~32~~ ~~33~~ 34 ~~35~~ L M ~~S~~ 1 2 ~~3~~ 6.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ÖSTERREICHISCHE STICKSTOFFWERKE AG
Austrian Nitrogen Works Inc.

ACRONYM:

See also

ADDRESS 4020 LINZ/Donau,
St. Peter 224.

Tel (072.22) 56.471

AFFIL

Title	PERSONNEL	Function
Prof.Dr	W. Leithe *	chief chemist.

AP aims and actions:

Measurement of industrial pollutants (NH_3 CO O_2 smoke) and of urban AP (SO_2 HF NO_x).

Comments:

- Member of:
  European Fed. of Chem. Engg,
  Centre Européen des Fédérations de l'Industrie Chimique.

Has written book review of analytical methods for air pollutants.

A.071 Österreichische Stickstoffwerke AG 6.71

A 054 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 ~~22~~ 23 ~~24~~ 25 31 32 33 34 35 ~~L~~ M S ~~1~~ 2 3 6.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME U. WIEN, I. Physikalische Institut
U. Vienna, 1st. Institute of Physics

ACRONYM:

See also

ADDRESS 1090 WIEN,
Strudlhofgasse 4.

Tel: (02.22) 34.77.28

AFFIL

Title	PERSONNEL	Function
Prof.Dr	P. Weinzierl	director
Prof.Dr	O. Preining	
Dr.	A. Berner	
Dr.	V. Berner	
Dr.	H. Horvath	
Dr.	H. Reichelt	
Prof.Dr	E. Reeger	
Dr.	P. Sellner	

AP aims and actions:

Measurements of CO CO_2 NO_x HC smoke and particulates in air; development of suitable techniques.

Studies of atmospheric physics, including factors affecting visibility.

Comments

A.054 U. Wien, I. Physikalische Institut 6.71

B 001 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.66

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: CONSEIL SUPÉRIEURE DE L'HYGIÈNE PUBLIQUE

Supreme Council for Public Hygiene

ACRONYM:

See also B.002 B.003

ADDRESS 111e chaussée de Gand,
Berchem-Sainte-Agathe,
BRUSSELS

Tel:

AFFIL. Min. of Public Health

PERSONNEL

Title	PERSONNEL	Function
Dr.	Halter	Secretary
+ 35 45	appointed members	(see Guide des Ministères, p554).

AP aims and actions:

[illegible] Special Session to advise Min. Pub. Health on nature and form of AP control measures (within wider framework of all matters concerning public health).

Comments:

Central consultative body for AP in B, with effective veto powers.

Members, all civil servants (fonctionnaires), appointed as med/hyg specialists; some active, some observers.

B.001 Conseil Supérieure de l'Hygiène Publique [illegible]

B 002 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: COMMISSION INTERMINISTÉRIELLE DE COORDINATION .... *

Interministerial Commission for Coordinating AP Matters

ACRONYM

See also B.001

ADDRESS [illegible] Administration de l'Hygiène,
[illegible],
[illegible] de l'Oratoire,
BRUSSELS.

Tel

AFFIL. Min. de la Santé Publique
(Min. of Public Health)

Title	PERSONNEL	Function
Dr.	A. de Wever	President
Mr.	Fattoet	Secretary

[illegible] members representing all Ministries concerned with environmental conservation (see list over).

AP aims and actions

Development of control measures and regulations. Advise to Provincial administrations regarding the [illegible] of industries which could affect environment.

Comments:

* ... en Matières de la Pollution de l'Air.

Principal decision-maker [illegible] AP matters.

Maintains contact with [illegible], mainly through Industry [illegible]

B.002 Commission Interministérielle ...

B.002 Commission Interministerielle de Coordination en Matieres de la Pollution de l'Air 5.71

President Dr. A. de Wever
Members Dr. Amerlinck
Dr. Dresse
Dr. Laurent
Ir. Stassen
Ir. Stallaert
Mr. Bruggemans
Dr. Latteur
Mr. Orban
Mr. Bouquiaux
Dr. Lafontaine
Mr. Patteet
Ir. Verlinden
Ir. de Crave
Mr. Zuallaert

B 003 001 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S F
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME MINISTÉRIE DE LA SANTÉ PUBLIQUE ET DE LA FAMILLE
Ministry of Public Health and for Family Affairs

ACRONYM:
See also B.001-2-4

ADDRESS 44 avenue des Arts,
BRUSSELS 4.

Tel:
AFFIL

Title	PERSONNEL	Function
Dr.	J. Halter	General Secretary
Dr.	A. de Wever	Director General, Hygiene
Dr.	F. Amelinck	Inspector General
Dr.	A. Dresse	Head of AP Inspectorate

AP aims and actions:
Responsible for control of A & WP.
Obtains and comments on information about AP in classified zones (i.e. domestic and commercial areas - industrial pollution is the concern of Min. of Labour, B.004 - at least for the time being).
Coordinates all national opinions concerning pollution.
Responsible for formulating and enacting all AP controls.

Comments:

B.003 Ministérie de la Santé Publique ... 5.71

B 004 GOV A B ~~C~~ ~~D~~ ~~E~~ F 01 ~~02~~ ~~03~~ ~~04~~ 05 11 12 13 14 ~~15~~ ~~21~~ 22 ~~23~~ 24 25 31 32 33 34 35 L ~~M~~ S ~~1~~ 2 3 5.71 S ~~1~~
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ADMINISTRATION DE LA SÉCURITÉ DU TRAVAIL
Work Safety Administration

ACRONYM:
See also B.003

ADDRESS 53 rue Belliard,
1040 BRUSSELS.

Tel

AFFIL Min. de l'Emploi et du Travail
(Min. of Employment and Labour)

Title	PERSONNEL	Function
Ir.	A. Laurent	General Director
Ir.	Stallaert	AP Adviser

AP aims and actions:

- Undertakes surveys of AP in and around industrial premises, and proposes controls.
- Establishes the classification of industries, and determines operating conditions for small and medium sized industries (though the former are usually delegated to the provincial and municipal authorities).
- Inspects industrial premises for conformity with the conditions of the operating licence, through the provincial offices of the Administration.

Comments:
Main concern is for industrial safety.

B.004 : Administration de la Sécurité du Travail 5.71

B [illegible] A B ~~C~~ D E F 01 02 03 04 05 ~~11~~ 12 13 14 15 ~~21~~ 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 3 5.71 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ADMINISTRATION DE L'HYGIÈNE ET DE LA MÉDECINE DU TRAVAIL
[illegible] Administration

ACRONYM:
See also

ADDRESS [illegible],
[illegible] BRUSSELS.

Tel [illegible]

AFFIL Min. de l'Emploi et du Travail
(Min. of Employment & Labour).

Title	PERSONNEL	Function
Dr.	Denonne	Head of [illegible]

AP aims and actions:

- Inspection of industrial premises for conformity with conditions of licence.
- Control of noise and air pollution in plants.

Comments:
Main concern is industrial hygiene.

B.[illegible] : Administration de l'Hygiène et de la Médecine du Travail 5.71

B 006 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ARBEIDSGRUPPE VOOR STREEKEKONOMIE
Industrial Ecology Working Group

ACRONYM:

See also

ADDRESS: Wetstraat 52,
BRUSSELS.

Tel

AFFIL: Ministry of Regional Economy
(Flanders).

Title	PERSONNEL	Function
Prof.	M. Willems	chairman
Prof.	A. Vlerick	Secretary of State
Mr.	J. Bormans	(Belg. Chem. Fed.)
Mr.	P. Tritsmans	(Belg. Pet. Fed.)

+ representatives of all regional ministries, harbours, industries, university.

AP aims and actions:

Advises Minister about nuisance potential for new industries. Evaluation of impact of existing pollution; review of proposals for abatement measures.

Comments

Established 1970.

B.006 Industrial Ecology Working Group, Flanders 5.71

B 007 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSPECTION DU TRAVAIL : ARBEIDSINSPECTIE
Labour Inspectorate

ACRONYM:

See also

ADDRESS: [illegible] rue de la Loi,
[illegible] BRUSSELS.

Tel

AFFIL: Min. de l'Emploi et du Travail
(Min. of Employment & Labour).

Title	PERSONNEL	Function
	W. Zualaert	Chief Inspector

AP aims and actions:

Inspection of industrial premises for conformity with conditions of the operating licence.

Comments

B.007 Inspection du Travail : Arbeidsinspectie 5.71

B 011 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME INSTITUT D'HYG. ET D'EPIDÉMIOLOGIE, Dept. de l'Environment
Inst. of Hygiene and Epidemiology, Environ'l Studies Dept.

ACRONYM
See also B.003 B.012

ADDRESS 14 rue Juliette Wytsman,
1050 BRUSSELS.

Tel

AFFIL Min. de la Sante Publique
(Min. of Public Health).

Title	PERSONNEL	Function
Dr.	R. Lafontaine	dir. gen of Institute
Dr.	J. Bouquiaux	dept. hd. for AP etc.
Mr.	Verduyn	lab. head.

Total of 7 (3F) concerned with AP (some have other responsibilities).

AP aims and actions
Studies of ambient pollutant levels in Belgium (smoke, radioactive materials, pesticides, Pb, NO_x, etc.).
Operation of national smoke and SO_2 survey network.

Comments
Survey data from 1968.
Also responsible for WP.

[illegible] Institut d'Hygiène et d'Epidémiologie 5.71

B 012 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] 1 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME INSTITUT ROYAL METEOROLOGIQUE DE BELGIQUE
Royal Belgian Meteorological Institute

ACRONYM I R M
See also B.[illegible]

ADDRESS Avenue Circulaire 3,
Uccle,
BRUXELLES 18

Tel

AFFIL Min. of National Education
and Culture.

Title	PERSONNEL	Function
Dr.	[illegible]. Grandjean	director
Mr.	Legrand	

AP aims and actions
Measurements of radioactive materials in the air.
Computation of AP survey data obtained by Inst. of Hyg. and the Approved Labs (because IRM have suitable computer).
Publishes the survey data in Bulletin Mensuel/Maandbericht (Monthly Bulletin).

Comments

B.012 Institut Royal Meteorologique de Belgique [illegible]

B 013 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.69 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUT NATIONAL DES INDUSTRIES EXTRACTIVES
National Institute of Extractive Industries

ACRONYM: I N I E X

See also: B.014 B.015

ADDRESS: rue Chera,
LIÈGE

Tel

AFFIL: Min. of Economic Affairs

Title	PERSONNEL	Function
	Ledent	director
Ir.	G. Nenquin	dep. director

AP aims and actions

By delegation from Min. of Economic Affairs, controls the licensing and conditions of operation (inc. AP) of the largest and most dangerous industries (i.e. Class III - mines, smelting, petroleum refining, etc).

Comments

INIEX combines the roles of the previous Inst. Nat. des Mines, Pâturages, and Inst. Nat. de l'Industrie Charbonnière (but Inst. voor Mijnhygiene at Hasselt is still separate -- see B.015)
Active only in southern Belgium.

B.013 Institut National des Industries Extractives (INIEX) 8.69

B 014 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUT NATIONAL DES MINES
National Mining Institute

ACRONYM:

See also: B.013 B.015

ADDRESS: PÂTURAGES

Tel

AFFIL

Title	PERSONNEL	Function
	G. Fally	
	C. Henaut	
	G. Nenquin	

AP aims and actions

Study of industrial pollution for the industries subject to the administration of the Mines Inspectorate (coal mines, smelting, extractive industries, etc) and also for other plants on request.

Comments:

Now absorbed in INIEX (B.013).

B.014 Institut National des Mines 8.69

B 01[illegible] GOV A B C ~~D~~ E F 01 02 03 04 05 11 12 13 14 15 21 22 ~~23~~ 24 25 31 32 33 34 35 L M ~~S~~ ~~1~~ 2 3 8.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUT VOOR MIJNHYGIENE
Mine Safety Institute

ACRONYM:
See also B.013

ADDRESS: Havermarkt,
HASSELT,
Limbourg.

Tel:
AFFIL:

Title	PERSONNEL	Function
Prof.	A. Houberechts	director
Prof.Dr.	van Mechelen	
Ing.	G. Degueldre	

AP aims and actions
Research into dust pollution, ventilation and air conditioning.
Medical effects of dust pollution.

Comments:
This Institute remains separate other mining institutes absorbed in INIEX (B.01[illegible]).

B.01[illegible] Institut voor Mijnhygiene 8.69

B 01[illegible] NAT ~~A~~ B C ~~D~~ E F 01 02 ~~03~~ 04 05 ~~11~~ 12 13 14 15 21 ~~22~~ 23 ~~24~~ 25 31 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 8.69 S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: CENTRE D'ÉTUDE DE L'ÉNERGIE NUCLÉAIRE
Nuclear Energy Research Centre

ACRONYM:
See also

ADDRESS: [illegible],
BRUXELLES.

Tel:
AFFIL:

Title	PERSONNEL	Function
	Boulenger	director

AP aims and actions
Monitoring of radioactivity in suspended and deposited particulates at Mol, Brasschaat, Florennes, Kleine Brogel, [illegible] and Vilvoorde.

Comments:

B.01[illegible] Centre d'Étude de l'Énergie Nucléaire 8.69

B 017 NAT ~~A~~ B C D E F 01 02 03 04 05 11 12 13 14 ~~15~~ 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.69 S ~~T~~
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUT POUR L'ENCOURAGEMENT DE LA RECH. SCI. ETC.*
Inst. for the Encouragement of Sci. Res. in Industry & Agric.

ACRONYM: IRSIA
See also: B.013 B.030

ADDRESS

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions:
Coordinates needs of individual industries in commissioning research work by other organisations (e.g. [illegible], B.030).
Provides University support funds for specific research projects (on condition results are published).

Comments:
*Institut pour l'Encouragement de la Recherche Scientifique dans l'Industrie et l'Agriculture.

Wide range of interests, but not much AP yet.

B.0[illegible] Inst. pour l'Encouragement de la Rech. Sci. .... (IRSIA) 8.69

B 0[illegible] [illegible] A B C ~~D~~ E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 8.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LABORATOIRE INTERCOMMUNAL DE CHIMIE ET DE BACTÉRIOLOGIE
Intercommunal Chemistry and Bacteriology Laboratory

ACRONYM:
See also:

ADDRESS: [illegible] Marlborough,
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
	J. Kufferath	director

AP aims and actions:
Improvement of AP in Brussels area.

Comments:

B.0[illegible] Laboratoire Intercommunal ... Bruxelles 8.69

B 020 RE[illegible] A B̸ C D E F 01 02 03 04 05 11 12 13 14̸ 15 21 22 23 24 25 31 32 33 34 35 L̸ M S 1 2̸ 3 5.71 S T̸
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: PROVINCIALE COMMISSIE VOOR ... BESCHERMING VAN HET MILIEU
Provincial Commission for Environmental Conservation (etc)

ACRONYM:
See also

ADDRESS Luikersteenweg 62,
3500 HASSELT,
Limburg.

Tel

AFFIL Bestendige Deputatie van de
Provincie Limburg (Limburg
Provincial Authorities).

Title	PERSONNEL	Function
	A. Claessen	chairman
	+ 22 members	

AP aims and actions
Through its Environmental Working Group, advises local authorities in Limburg Province on pollution levels. [illegible] for ambient air quality surveys in the province.

Comments:

[illegible] Provincial Commissie ... Limburg [illegible].71

B [illegible] RE[illegible] A B C D̸ E F 01 02 03̸ 04̸ 05 11̸ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S̸ 1 2̸ 3 [illegible].71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME SERVICE PROVINCIAL DE TOXICOLOGIE DU TRAVAIL
Provincial Occupational Toxicology Service

ACRONYM
See also B.[illegible]

ADDRESS [illegible] bvd. de la Constitution,
4000 LIEGE.

Tel

AFFIL Deputation permanente de la
Province de Liege;
Institut Provincial d'Hygiene.

Title	PERSONNEL	Function
Dr.	D. Rondia	director

AP aims and actions
Identification and analysis of air pollutants and toxic [illegible] [illegible] by industry.

Comments
Established 1971.

B.[illegible] Service Provincial de Toxicologie du Travail, Liège 5.71

B 022 MUN A B C ~~D~~ E F 01 02 03 04 05 11 12 13 14 15 21 22 ~~23~~ 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 8.69 — S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LE LABORATOIRE INTERCOMMUNAL DE CHIMIE, Charleroi

Municipal Chemistry Laboratory of Charleroi

ACRONYM:

See also

ADDRESS Place de l'Abbatoir,
CHARLEROI

Tel:

AFFIL

Title	PERSONNEL	Function

AP aims and actions:

Comments: One of the Approved Labs.

B.022 Laboratoire Intercommunal ... Charleroi 8.69

B 0[illegible]7 REG A ~~B~~ C D E F 01 02 03 04 05 11 12 13 ~~14~~ 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S 1 ~~2~~ 3 5.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: COMMISSION TECHNIQUE

Technical Commission

ACRONYM:

See also

ADDRESS GENT.

Tel:

AFFIL Deputation permanente du conseil provincial Flandre Orientale (East Flanders provincial authorities).

Title	PERSONNEL	Function
Prof.	A. Hacquaert	president
	+ 10 members (listed over).	

AP aims and actions: To inform and advise municipal authorities on the granting of operating licences for new industries.

Comments:

B.0[illegible] Commission Technique, Flandre Orientale 5.71 X

B.023 Commission Technique, Flandre Orientale 5.71

Prof.	A.	Hacquaert	president
Prof.		Heyndrickx	vice-president
Prof.	A.	Cottenie	Ghent Univ.
Ir.	E.	Despriet	Tech. Labour Inspector
	H.	Herberigs	Sec., Chamber of Commerce
Dr.	[illegible]	Goetghebuer	Health Inspector
	[illegible]	Lagrou	Highways
	[illegible]	Medaets	Mines Inspector
Dr.	[illegible]	van der Haeghen	Ghent Town Planning
Dr.		van Melrhaeghe	Ghent Public Health
Dr.	R.	Vekeman	Counsellor.

B 024 MPT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.69 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: HET STADSLABORATORIUM VAN GENT

ACRONYM:

See also

ADDRESS
Ghent Municipal Laboratory
Baudelookaai 1,
GHENT.

Tel:

AFFIL:

Title	PERSONNEL	Function

AP aims and actions:

Comments:
One of the Approved Labs.

B.024 Het Stadslaboratorium van Gent 8.69

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
B	029	REG	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	5.71		S 1

NAME: CENTRUM TEGEN LUCHT EN WATER VERONTREINIGING

Centre Against Air and Water Pollution

ACRONYM:

See also B.052

ADDRESS: Stadslaboratorium,
Schilderstraat 41,
ANTWERP.

Tel:

AFFIL:

Title	PERSONNEL	Function
Prof.	A. Heyndrickx	chairman (U. Ghent)
Prof.	M. Herman	vice-chmn (U. Antwerp)
	G. Schepens	(Harbour Authority)
	F. Luyckx	(Fire Authority)
	- -	(Provincial Health Auth'y)
Dr.	A. Clement	secretary (Public Hlth Auth)

AP aims and actions:

Advises and coordinates on operating conditions for industrial licences granted by Antwerp authorities.
Surveillance of AP levels (smoke SO_2 etc) around plant; coordination with Arbeidsinspectie regarding emissions.
Investigation of specific AP problems, incidents and complaints.

Comments:

Set up 1964.
Two labs: AP for all of Antwerp Province by Stadslaboratorium Antwerp (Municipal Lab); WP by Provincial Inst. of Hygiene.

B.029 Centrum tegen Lucht ... Verontreiniging, Antwerp 5.71

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
B	030	DOC	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	8.69		S 1

NAME: CENTRE BELGE D'ÉTUDE ET DE DOCUMENTATION DE L'AIR

Belgian Centre for Air Research & Documentation

ACRONYM: CÉBÉDAIR

See also B.031 B.017

ADDRESS: 77 rue du Val Benoît,
LIÈGE.

Tel:

AFFIL: Section of CÉBÉDEAU

Title	PERSONNEL	Function
Prof.	Edmond Leclerc	director
	E. van Caillie	asst.
	Deswaef	asst.
	+ staff of 4-5 p	

AP aims and actions:

Investigations of emissions from industrial processes (smelting, metallurgy, coal, coke, etc. especially in Liege area). Practical work by Univs. (of Liege, Ghent, Louvain, etc).
Technical assistance with abatement problems.
Publishes "La Tribune de CEBEDEAU" (monthly by Édition CÉBÉDOC: ed Prof. Leclerc, Dir. & Sec. H. Goldstein 2 bd. Frere Orban, Liège - (04-52.01.80).

Comments:

One of the Approved Labs.
Supported by grants from IRSIA (B.017) Min. Pub. Hlth., and from commissioned work from Ministries, Institutes (eg of Town Planning), or industries. Some reports are confidential. Can take initiative.
Budget approx. FB 5m/Y (labs rent free).

B.030 CEBEDEAU / CEBEDAIR 8.69

B 071 SCC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BELGIEN CENTRUM VAN DE LUCHT
Belgian Centre for Air Research

ACRONYM: BECELU
See also: [illegible]

ADDRESS: Rozier 6,
GHENT

Tel:

AFFIL: CEBEDAIR ([illegible]).

Title	PERSONNEL	Function
Prof.	Armand Hacquaert	director

AP aims and actions:

Study of atmospheric pollutants (dust, smoke, SO_2) and investigation of industrial AP problems - especially in Flanders.

Comments:

BECELU is Flemish section of CEBEDAIR ([illegible]).

B [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: FONDS D'ÉTUDES ET DE RECHERCHES DE LA SÉCURITÉ ROUTIÈRE
Road Safety Research Foundation

ACRONYM:
See also:

ADDRESS: 14 rue de Gouvernement Provisoire,
BRUSSELS 1.

Tel:

AFFIL: Min. of Communications
(indirectly)

Title	PERSONNEL	Function
Ir.	G. de Brabander	manager

AP aims and actions:

Research into causes and remedies of vehicle pollution in the context of road safety, in order to be able to advise Min. Communications and the veh. testing co's. Organises international road safety documentation centre. Publishes q'ly: "Technical Aspects of Road Safety" with articles in Fr. Du. Eng. Ger., with summaries.

Comments:

Financed by Min. of Comm. and vehicle testing co's.

B.0[illegible] Fonds d'Études et de Recherches de la Sécurité Routière *

B.032 Fonds d'Études et de Recherches de la Sécurité Routière 5.71

Membership of Council

President	Monsieur Vrebos Secrétaire Général au Ministère des Communications
Vice-President	Monsieur Cornelis
Administrateur-Delegue	Monsieur Verlinden
Administrateur-Secretaire	Monsieur Nicholas
Administrateurs	Monsieur de Cracker Monsieur De Wolf Monsieur M. Van Damme
Directeur	Monsieur De Coster.

Co/Tr. No. Type A B C D E F Functions 01 02 03 04 05 Sources 11 12 13 14 15 Effects 21 22 23 24 25 Controls 31 32 33 34 35 Remedies L M S Size 1 2 3 Status Date

NAME FÉDÉRATION PÉTROLIÈRE BELGE / BELGISCHE PETROLEUM FEDERATIE
Belgian Petroleum Federation.

ACRONYM [illegible]

ADDRESS rue de la Science,
BRUSSELS 4.

Tel:

AFFIL Fédération des Industries
Belges.

PERSONNEL

Title		Function
Prof.	Paul Hatry	Director
Mr.	J.R. Hotte	[illegible]
Mr.	R. Kiekens	secretary [illegible]

+ representatives from [illegible]

AP aims and actions:

AP cttee is responsible for representing AP opinions of petroleum industry to various official groups - eg. Min. of Public Health.

Comments:

Prof. Hatry is at [illegible]
Brussels. Faculty [illegible]
Science.

B 034 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME BELGISCH PETROLEUM INSTITUUT
Belgian Petroleum Institute*

ACRONYM:

See also

ADDRESS Wetenschapstraat 4
BRUSSELS

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	E. T. Maes	president

AP aims and actions

Has AP cttee: "Commissie tegen luchtbezoedeling" to collect technical information on AP as it affects the oil industry.

Organises conferences.

Comments:

*Former name: Société Belge pour l'Etude du Pétrole (Belgisch Studiegenootschap voor Aardolie)

B.034 Belgian Petroleum Institute 8.69

B 035 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME CENTRE D'ÉTUDES DES COMBUSTIBLES LIQUIDES
Study Group for Liquid Fuels

ACRONYM: CÉDICOL

See also

ADDRESS

Tel

AFFIL

Title	PERSONNEL	Function
	J. Bolle	general director

AP aims and actions

Information centre regarding use of liquid petroleum products.
Prepares standards for small heating plant.

Comments:

B.035 CÉDICOL 5.71

B C?? ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME ASSOCIATION INDUSTRIELLE ... *
Industrial Association for Air and Water Conservation

ACRONYM
See also B.[illegible]

ADDRESS [illegible] Beverstein,
[illegible]

Tel
AFFIL

Title	PERSONNEL	Function
Mr.	H. Bodson	director
Mr.	J. Bormans	technical secretary
Mr.	O. Colas	secretary

AP aims and actions
[illegible] industrial interests through information [illegible].
[illegible] specific problems.

Comments
- ... pour la protection [illegible] de l'Air contre la Pol[illegible]

Has working groups for Air [illegible]
has no laboratories of its own.

[illegible] Association Industrielle ...
[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME GROUP'T DES IND'S DE LA SAMBRE CONTRE LA POLL. DE L'A ET DE L'E
[illegible] Conservation Gp. of Industrialists in the Sambre Valley

ACRONYM [illegible]
See also

ADDRESS

Tel
AFFIL

Title	PERSONNEL	Function
Mr.	Massinon	secretary-director

AP aims and actions

Comments
- Groupement des Industriels de la Sambre contre la Pollution de l'Air et de l'Eau

Mainly metallurgical and [illegible]
interests.

Group't des Ind's de la Sambre contre la Poll. de l'A et de l'E [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.66 S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME GROUP'T DES IND'S DE LA MEUSE CONTRE LA POLL'N DE L'A ET DE L'E

A & W Conservation Gp. of Industrialists in the Meuse Valley

ACRONYM GIMPE

See also

ADDRESS

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	Ubaghs	Secretary-director

AP aims and actions

Comments:

Groupement des Industriels de la Meuse contre la Pollution de l'Air et de l'Eau.
Mainly metallurgical and chemical interests.

[illegible] Group't des Ind's de la Meuse contre la Poll'n de l'A et de l'E 8.66

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] VLAAMSE INGENIEURSVERENIGING

[illegible] Association of Engineers

ACRONYM K V I V

See also

ADDRESS [illegible]
[illegible] 58,
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.	A. van Haute	chmn. Health Engineering [illegible]
Mr.	[illegible]. Bormans	chmn. AP working group
[illegible]	K. Verschueren	sec. " "

AP aims and actions

[illegible] on pollutants, glossaries of [illegible], [illegible] institutes.
[illegible] on AP problems.

Comments:

Health Eng'g Cttee established 19[illegible]: set up working groups for AP, [illegible], and waste disposal.
Membership from industry, local-[illegible] authorities, universities, etc.

[illegible] Vlaamse Ingenieursvereniging 8.71

B 041 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.[illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ATELIERS DE CONSTRUCTION ELECTRIQUE, CHARLEROI

Electrical Construction Works

ACRONYM A C E C

See also

ADDRESS Avenue Émile Rousseau,
CHARLEROI - Marcinelle.

Tel

AFFIL Westinghouse Corporation.

Title	PERSONNEL	Function
Mr.	P.E. Dubois	Director of Stu[illegible] for Particula[illegible]

AP aims and actions

[illegible] of equipment and techniques for flue gas [illegible] particularly for power plant.

Comments

Incentive is own equipment sales.

B.041 Ateliers de Construction Électrique, Charleroi 8.[illegible]

B 042 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.[illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME L'ASSOCIATION VINÇOTTE

The Vinçotte Association

ACRONYM:

See also

ADDRESS [illegible], rue du Commerce,
BRUXELLES

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions

Comments:

One of the Approved Labs.
Main activity is inspection of industrial equipment and pressure vessels.

B.042 L'Association Vinçotte 8.[illegible]

B 070 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ECOLE ROYALE MILITAIRE / KONINKLIJKE MILITAIRE SCHOOL

Royal Military School, Mechanical and Transport Section

ACRONYM

See also

ADDRESS [illegible] Ave. de la Renaissance,
BRUXELLES.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.	A. Sibenaler	director of Section Laborat
Prof.	van Laer	AP engineering

AP aims and actions

Studies of means for reducing exhaust emissions from internal combustion engines. Testing catalysts etc.

Comments

Engineering consultancy for industry. Represented on international bodies.

B.070 Ecole Royale Militaire 5.71

071 AP A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.70 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME RIJKSUNIVERSITEIT GENT, Lab. voor Anorg. Technische Chemie etc.

State University of Ghent, Lab. for Inorg. Technical Chem., etc

ACRONYM

See also B.070-1

ADDRESS [illegible],
GENT.

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	F.M. Bosc[illegible]	director
Dr.	A.R. van Cauwenberghe	lecturer
Dr.	[illegible] van Wiele[illegible]	assistant

AP aims and actions

[illegible]

Comments

Started AP surveys in 1964.
Much of work for town planning.
Cooperates closely with IRCHUN/
CEBEDAIR (B.071, B.070).

B.0[illegible] Rijksuniversiteit Gent, Lab. voor Anorg. Chemie, Etc 8.70

B 057 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 ; M S 1 2 3 [illegible]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME UNIV. DE L'ÉTAT A LIEGE, Lab. de Chimie Médical et de Toxicol. | ACRONYM

Liege State University, Lab. of Medical Chemistry & Toxicology | See also [illegible]

ADDRESS rue des Bonnes Villes,
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.	C. Heusghem	director
Dr.	D. Rondia	head of [illegible] chem.
	H. Della Fiorentina	

AP aims and actions

[illegible] M.P, mass analysis of PNA's in ambient air for correlation with other health factors.
[illegible] chemistry of PNA's.
[illegible] investigate [illegible] problems [illegible] pollution.

Comments

[illegible] Univ. de l'État a Liège, Lab. de Chimie Médical et de Toxicol. [illegible]

B [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 ; M S 1 2 3 [illegible] 5 7
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ~~RIJKSUNIVERSITEIT GENT~~ UNIV, Lab. voor Toxicologische Scheikunde | ACRONYM

Ghent State Univ., Lab. for Toxicological Chemistry | See also B.0[illegible], B.0[illegible]

ADDRESS Gent,

Tel

AFFIL

Title	PERSONNEL	Function
Prof.	A. Heyndrickx	director

AP aims and actions

[illegible] analyses of [illegible] in air and plants.

Comments

Prof. Heyndrickx is consultant on toxicology to Antwerp AP Centre (B.0[illegible]).
Compare with Dr. Rondia at Liège (B.0[illegible]).

[illegible] Rijksuniversiteit Gent, Lab. voor Toxicologische Scheikunde [illegible]

B 004 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.66 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME KATHOLIEKE UNIVERSITEIT TE LEUVEN, Lab. voor Indust. Chimie
Louvain Catholic Universities, Lab. for Industrial Chemistry

ACRONYM:
See also

ADDRESS de Croylaan 2,
Heverlee,
LOUVAIN

Tel
AFFIL

Title	PERSONNEL	Function
Prof.	A. van Haute	director

AP aims and actions
Studies of atmospheric pollutants.
Courses in basic A and AP matters.

Comments:

B.004 Katholieke Universiteit te Leuven, Lab. voor Indust. Chimie 8.66

B [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] CONTRE LA POLLUTION DE L'AIR ET LE BRUIT
[illegible] Air Pollution and Noise

ACRONYM:
See also

ADDRESS [illegible],
[illegible]

Tel
AFFIL

Title	PERSONNEL	Function
Mr.	J. Delcroix	President and Founder
Mr.	R. Vermeylen	
Mr.	P. Boeynants	
Mr.	J. van Offelen	

AP aims and actions
[illegible] all forms of AP
through establishment of European standards.

Comments:
Set up in 1957.

B.0[illegible] [illegible] contre la Pollution de l'Air et le Bruit 5.71

B	002 200	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	5.71
Country	No	Type Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME: INSTITUT DE L'ENVIRONNEMENT
Institute [illegible] the Environment

ACRONYM:
See also

ADDRESS: [illegible], [illegible],
[illegible] BRUSSELS

Tel
AFFIL

Title	PERSONNEL	Function
	F. Boseloos	president
	[illegible] Cox	director

AP aims and actions:
[illegible] for the environment and promotes [illegible] and [illegible] developments.

Comments:
Established 1970.

[illegible] Institut de l'Environnement

B	[illegible]	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	[illegible]
Country	No	Type Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME [illegible]
[illegible] Environment Association

ACRONYM:
See also

ADDRESS [illegible],
[illegible],
[illegible].

Tel
AFFIL [illegible], [illegible]

Title	PERSONNEL	Function
Dr.	R. Knapen	president
Dr.	A. Verhoven	secretary

AP aims and actions:
[illegible] conservation in communities [illegible] growth.
[illegible] and publishes papers.

Comments:
Established 1970.

[illegible]

BOLIVIA

The western part of Bolivia, which contains 80 percent of the population including La Paz, is on a high mountain plateau at an elevation of 12,000 feet, with good atmospheric ventilation throughout. The eastern half of the country is a low alluvial plain; 65 percent of the total population of 5 million is rural. Mining is the major industry. The chief problems in environmental health are silicosis and silicotuberculosis, exposures to high-altitude radioactivity borne into the country, and water-borne endemic diseases. Air pollution from domestic sources is not a problem, and there are no specific organizations for its control. There is a serious lack of water and sewerage facilities in the de facto capital city of La Paz, which has 60 percent of the industry of the country, 55 percent of the labor force, and 10 percent of the total inhabitants. This problem is found also in other cities, including the commercial center of Cochabamba and the areas of Santa Cruz where the sugar and coffee industries are located.

BRAZIL

GENERAL AIR POLLUTION BACKGROUND

Air pollution control activities in Brazil have been handled almost entirely on a local basis. At present, there are only five major cities there where air pollution has been or is being recognized as a problem: São Paulo, Rio de Janeiro, Belo Horizonte, Bahia and Recife. In this list, Sao Paulo probably has the greatest degree of pollution, next Rio de Janeiro and so forth. While air pollution has not been considered serious enough to require Federal or state coordination, the Federal Government recently appointed a committee to study the situation and make recommendations. Water pollution, however, is recognized as a serious problem, and much greater efforts to bring about improvements are under way.

With a population of 6 million, Sao Paulo is the largest city and the heart of Brazilian industry. It also has the highest concentration of motor vehicles. Sao Paulo is located inland from the sea port of Santos, with industrial valleys between it and the sea. Wind velocities are usually sufficient for significant atmospheric dispersion, but these winds ordinarily pass over industrial areas before they reach the city. Temperature inversions occur more frequently in the winter months of April to September, coinciding with high emission rates from utilities and domestic heating.

In general, air pollution in Brazil is well below that in more developed countries. On the basis of comparative Gross National Products, it appears that the total output of waste is perhaps only a thirtieth of that of the United States, and, as a result, Brazilian authorities have given other problems higher priorities. From announced government plans, it seems that air pollution will receive lower priority than the development of potable water supplies, now available to only 44 percent of the urban population; installation of sanitary sewers, now reaching only 22 percent of the urban population; expansion of education facilities, now accommodating only 65 percent of the school-age children; and construction of hospitals, roads and other infrastructures. Air pollution is not expected to be given

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a higher priority until it reaches critical proportions. In the next year or so, this stage is most likely to be reached in the Rio and São Paulo areas.

RELATIONSHIPS AMONG ORGANIZATIONS

The state of Sao Paulo has contracted with a company, the Inter- BR-01
municipal Commission for the Control of Water and Air Pollution (CICPAA), created to monitor air pollution and to recommend actions for the industrial municipalities of S. Andre, S. Bernardo, S. Caetano, and Maua. These are cities where the industrial activities of the state are concentrated. Activities of the organization have included a complete survey of all local industries (patterned after those conducted in Los Angeles), investigation of air-pollution complaints, preparation of laws and regulations, personnel training and extensive programs of public education. The Executive Director of the Intermunicipal Commission is Engineer Nelson Nefussi, who has had post graduate training in air pollution in the United States. The Commission works closely with the Department of Environmental Health of the University of Sao Paulo. BR-02

The State Government plans to expand this coverage to other municipalities
and recently created the Superintendency of Sanitary Works as a successor BR-01
organization to CICPAA, to carry out this program along with other projects. The initial program is to obtain and install equipment to measure pollution and to evaluate the data acquired.

In Rio, the Sanitary Engineering Institute, a public agency, has been responsible for pollution control since 1967. The organization now has, spread throughout the city, 22 stations, which take 3000 daily samples. Each station is equipped to measure the main pollutants in its area. In addition, the National Confederation of Industries maintains a Technical
Commission for Hygiene and Industrial Safety, with the primary responsibility BR-04
of helping industries to comply with legislation. This function pertains almost exclusively to water pollution, and even the largest industries reflect this emphasis in their current concern for environmental controls.

Rio has responded favorably to a recommendation of the National Transit Council that smoke emissions from vehicles should not exceed a value of 2 on the Ringelmann Scale. The city plans to establish units throughout the area to monitor vehicle exhaust. In addition, officials have begun to enforce regulations requiring that exhaust from trucks and busses not be visible. In March 1970, the State of Guanabara (of which Rio de Janeiro is the capital) determined that the maximum allowable emissions by industries should be based on the Ringelmann Scale No. 2. An adequate basis for enforcement has not been established, however. In April 1970, regula[illegible] were issued to restrict the type and capacity of garbage incinerators permitted in apartment houses.

Petrobrás is not planning to install smokeless flares in new refineries there and in those which will be remodeled or expanded. Plans also call for the installation of sulfur recovery facilities in refineries in Duque de Caxias, Cubatao, Pasqualine, Passos, and Paulinea, primarily as a result of economic incentives.

TRENDS

The agencies mentioned above have attempted to stimulate Government and public interest in the steadily worsening atmospheric pollution by sponsoring conferences and seminars and by urging legislative action. Even with considerable newspaper and magazine coverage, these efforts have not been particularly successful. For example, the sponsors of the III Latin American Conference Against Air Pollution at São Paulo in November 1970 found that the results were of insufficient interest to warrant publishing the proceedings. One of the conclusions was that city governments should urge vehicle owners to maintain their vehicles in a satisfactory state of repair and adjustment.

Other organizations in Brazil that are beginning to be concerned about air pollution include the University of Minas Gerais, whose Sanitary Engineering Department will conduct the first air pollution studies in Belo Horizonte, and the Industrial Center of Aratú, which will carry out similar projects for Bahia. The Meteorological Department of Sudene will set up a station in Recife to measure atmospheric pollution in the center of the city.

BR 001 GOV A B C [✓ D] E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1/70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Int. Commission for Control of Air and Water Pollution
Comissao Intermunicipal de Controle de Poluiçao de agua e do ar.

ACRONYM CICPAA
See also

ADDRESS
Rua Heloisa Pamplona 267
Santo André-S.P.

Tel

AFFIL
Superintendency of Environmental
Sanitation (SUSAM)

Title	PERSONNEL	Function
Eng.	Antônio Pezzolo	Chairman
Eng.	Nelson Nelussi	Executive Director

AP aims and actions

Make pollution control studies in the area of Santo André, Sao Bernardo, Sao Caetano and Maua municipalities.

Monitoring, specific recommendations for controls in industry, investigation of complaints, preparation of new laws and regulations, training of personnel, public relations.

Comments

Functions and responsibilities of the Intermunicipal Commission are transferred to SUSAM by State decree of April, 1970.

BR 002 ACA A [✓ B] C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1/70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Department of Environmental Health, Univ. of S. Paulo
Departamento de Saude Ambiental

ACRONYM:
See also

ADDRESS
Av. Dr. Arnaldo 715
Sao Paulo - S.P.

Tel

AFFIL
Public Health College of the State
of the S. Paulo University

Title	PERSONNEL	Function
Prof.	Walter Engra- de Oliveira	Director

AP aims and actions

Promotion of studies and actions on pollution

Comments

BR 003 REC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1/70 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Sanitary Engineering Institute
Instituto de Engenharia Sanitária

ACRONYM:
See also

ADDRESS
Rua Fonseca Teles, 121-15º andar.
Rio de Janeiro - GB

Tel [illegible]

AFFIL
Superintendency of Urbanism and Sanitation (Guanabara State Government)

Title	PERSONNEL	Function
Eng.	Ricardo Lisboa da Cunha	Head of Pollution Control Div.
Eng.	Flávio D. Carvalho	Head of Atmospheric Pollution Control Section

AP aims and actions
To improve sanitary conditions in the Guanabara State; makes tests on water and water pollution, also on air quality.

Comments

SUC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Technical Commission for Hygiene and Industrial Safety
Comissao Tecnica Permanente de Higiene e Seg. Indust.

ACRONYM:
See also

ADDRESS
Rua México 31 s/304
Rio de Janeiro - GB

Tel

AFFIL
National Confederation of Industries

Title	PERSONNEL	Function
Dr.	Paulo Mendes	President
Eng.	Amador Parreira Barbosa	Director

AP aims and actions
Maintains a special laboratory for study of all aspects of health conditions in industry in the area of Rio de Janeiro.

Water quality control is considered the major problem.

Comments
Dr. Paulo Mendes is also a congressman in the Rio de Janeiro State Assembly and has been very active in promoting legislation for improvement of health conditions.

CANADA

GENERAL AIR POLLUTION BACKGROUND*

Geography

The second largest country in the world, Canada covers an area of 3,851,809 square miles, extending northward from the United States boundary into the Arctic Polar Regions. It is bounded on the west, east and northeast by mountains. The Cordillera in the west is a belt of rugged, high mountains, 1700 miles in length and 450 to 700 miles wide. This feature occupies almost all of the Province of British Columbia, as well as parts of Alberta and the Northwest Territories. In the east, there is a narrow and discontinuous belt of low mountains, covering parts of the Atlantic Provinces. Most of the population of 22 million in Canada live in a corridor 4000 miles in length, extending from the Atlantic to the Pacific Oceans, and 100 to 200 miles wide, extending northward from the United States boundary.

The climate of Canada is varied, but most of the country has a climate of a continental nature, with the seasons bringing extreme variability in the weather. The western Cordillera generally limits the humid air from the Pacific to a narrow band along the coast. During the winter, cold air from the Arctic frequently penetrates southward across all of Canada except for the sheltered west coastal areas. The mountains in the east are not high enough to bar this air from flowing across the Atlantic Provinces. During the summer, warm air from the Gulf of Mexico flows northward across the United States into the southern populated portion of the country. The frequency and the depth of penetration of these very cold and very warm, humid air masses vary with the season of the year. The frontal zone between the two contrasting air masses, one originating in the Arctic and the other from the tropics, generates winds, clouds and precipitation, which alleviate prolonged high levels of pollution.

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*Principal sources for this review are information supplied by W. Brad Dowley of the Ontario Air Management Branch, J. Lloyd Monkman of the Department of the Environment, Professor John Sullivan of the University of Western Ontario, and Hugo Holland of Imperial Oil; Louis Renzoni of International Nickel assisted by updating material collected from the literature.

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The portion of Canada where most of the population resides requires heating for at least 8 months of the year, from October through May. Sixty percent of the people live in cities having a population of over 30,000. One-fifth of Canada's population lives in the two metropolitan areas, Montreal and Toronto, each having a population of over 2 million. Air pollution over the most populated parts of the country is more likely to occur during the fall months. Much of the pollution is emitted at low elevation, from heating and automotive sources, and the sun's energy is not always great enough at this time of the year to break down the ground-based inversions developing during clear nights. Large stationary high-pressure areas, which cause stagnant weather conditions and prolonged, poor dispersion, are in general an ocean phenomenon, but at times the Atlantic high extends westward as far as the Great Lakes area. Similarly, the Pacific high extends eastward into British Columbia. During such conditions, pollution levels build up to high values in the urban areas.

Over most of the country, the most pronounced problems are the reducing pollutants, sulfur dioxide, and particulate matter. On the west coast, however, high concentrations of oxidants may occur, but much less frequently than in western California. Smelters and pulp and paper mills in the deep, sheltered valleys of British Columbia have produced pollution problems as a result of inversions and light winds, which allow for little ventilation.

During the winter and spring, warm air from the Pacific moves through the mountain passes into Alberta, and, at times, traps the cold air near the ground, causing pollution problems because of the interaction of emissions from oil and gas facilities. High-pollution problems are less frequent in the Prairie Provinces of Saskatchewan and Manitoba, where prolonged, poor dispersion is rare.

In Ontario, during the spring and summer, inversion conditions are often prolonged into the daytime over areas along the shorelines of the Great Lakes, as a result of the cool off-lake breezes. The problem is accentuated by the many industrial sources of pollution located on these shorelines in both Ontario and the United States, and a cross-boundary flow of pollutants is evident.

There is at present little air pollution in the Canadian Arctic, with very few sources. That area has a higher air-pollution potential, however, than any other part of Canada. During the Arctic winter, there is little solar radiation, and inversions may persist for several days with only a few windy interruptions. Winter pollution problems in the northern latitudes have been reported in Fairbanks, Alaska, and similar conditions would result from any growth of cities in the Canadian North.

POLITICAL FEATURES, FEDERAL AND PROVINCIAL

Canada

The Clean Air Act of 1971 provides for agreements between the provinces and the federal government to bring about uniformity in air pollution control programs across the country. Under this legislation and the British North America Act, all federal control programs are exercised in agreement with the provinces. The Clean Air Act, however, includes provisions for federal action if a province does not act. The federal government can also provide funding for provincial programs, operating in accordance with standards set by the federal government.

Federal works, businesses and installations, which have been exempt from provincial restraints, will be required to meet federal regulation. These may or may not be as stringent as the provincial ones. There is authority in the federal legislation to:

1. Set national air quality objectives;
2. Set national emission standards where the emission could cause a national helath hazard, or to comply with the terms of an international agreement, such as those involved with transborder pollution which are the concern of the International Joint Commission with the United States;
3. Regulate the composition of fuels imported into or produced in Canada; and
4. Set national emission guidelines.

The Department of the Environment is responsible for the administration of the Clean Air Act. Automotive emission control requirements are contained in the Motor Vehicles Safety Act, administered by the Department of Transport. Similarly, requirements relative to emissions from marine sources are included in the Canada Shipping Act, and railways are covered in the Canadian Transport Commission Act. Provinces and municipalities can enforce the marine and rail regulations upon application for delegated authority.

An Environmental Secretariate has been established at the National Research Council for determining environmental criteria and as an information center for environmental matters. The function is accomplished by committees and subcommittees composed of government, university and industry personnel.

Civil actions regarding compliance by industry and private individuals are handled by the provinces. The names and addresses of the Ministries and chief officers responsible for air pollution control are summarized in Table 10.

British Columbia

In this province, responsibility for air pollution control rests with the Pollution Control Board, in accordance with the Pollution Control Act. CDN-7
After January 1, 1971, no one could emit or discharge any contaminant into the air without a permit. Pollution sources existing prior to this date were allowed until December 31, 1971, to notify the Director of the following:

1. Type, daily average, and maximum quantity of contaminants discharged;
2. Location of source; and
3. Area of discharge.

Table 10. PROVINCIAL MINISTERS, DEPUTIES AND OFFICERS RESPONSIBLE FOR AIR POLLUTION CONTROL

[illegible]	Address	Responsible Officer
[illegible] COLUMBIA [illegible], Minister [illegible] Deputy Minister [illegible]	[illegible] of Lands, Forests and Water Resources, Parliament Buildings, Victoria, British Columbia	Mr. W. N. Venables Director of Pollution Control, Pollution Control Branch, Water Resources Service
[illegible] [illegible], Minister [illegible] [illegible]	[illegible] of the Environment, Parliament Bldgs., Edmonton, Alta. [illegible]	Mr. [illegible] Head, Air Pollution Control [illegible] Environmental Health Services Division
[illegible] [illegible], Minister [illegible] [illegible]	[illegible] of Public Health, [illegible] [illegible]	[illegible] Director [illegible] [illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible] Environmental [illegible] Department of Municipal Affairs [illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

Regulations detail the procedures for obtaining a permit, but no emission regulations have yet been issued. The Department of Health Services and Hospital Insurance has issued "Health" Standards relating to Air Quality Control, which incorporate emission values for sulfur dioxide and particulate matter. These values, however, should not be taken as authority to discharge contaminants up to the levels indicated. [illegible]

Alberta

At the present time, responsibility for the control of air pollution is vested with the Department of Health, with legislation contained in a special section of the Public Health Act, entitled "Pollution of the Atmosphere." Two new Acts, which have been passed by the Legislature but not yet proclaimed, will change the situation in the near future: the Department of the Environment Act and the Clean Air Act. The newly created department will administer the Clean Air Act. The new Acts, in part, deal with prevention of pollution and regulation of industries, and these powers will be deleted from the Public Health Act. The responsibility for setting ambient air standards for human health will remain with the Department of Health. CDN-6

Regulations are currently in force for smoke density, particulates, and ambient air. GLC Ambient Air Quality Standards for nine pollutants have been published, with specific procedures for sampling and analysis.

Saskatchewan

The Department of Public Health is primarily responsible for control of air pollution under the Air Pollution Control Act. Regulations have been issued covering maximum concentration of air contaminants from industrial sources, incinerators, and fuel-burning equipment. Each source is required to limit its emissions to meet these ambient values. CDN-11

Manitoba

No regulations have been issued under the new Clean Environment Act; however, ambient air and atmospheric emission criteria have been prepared.

Desirable air quality is listed for 12 constituents, and atmospheric emissions are covered in terms of ground level concentration. Emission standards for sulfur dioxide and particulate matter, issued by the Clean Environment Commission under the Public Health Act, are currently in force. CDN-12

Ontario

Of all the provinces, Ontario has the most comprehensive legislation, with control exercised under the recently passed Environmental Protection Act. The Air Management Branch of the former Department of Energy and CDN-14 Resources Management has become part of the Department of the Environment, and the previous regulations remain in force under the new Act.

Emission standards for some 20 contaminants are stated in terms of ground-level concentration or point of impingement (0.50 hour average), for which the control system must be designed. The Pasquill-Gifford dispersion equation, together with the Holland plume rise formula, is used in the calculations.

In addition to the emission limitations, the general regulation also covers smoke density and desirable air quality for some 15 constituents. Specific regulations govern emissions from automobiles, asphalt plants, and ferrous foundries. Regulation of the sulfur content in fuel is limited to Metropolitan Toronto.

An Air Pollution Index System is in force in four areas, Metropolitan Toronto, Hamilton, Windsor, and Sudbury. The System is used to prevent air pollution episodes, with authority to order curtailment of operations and/or cessation, depending upon the Index value reached and predicted adverse meteorological conditions. The Index is a 24-hour running average of sulfur dioxide and carbon hydroxide values, correlated with past air-pollution episode conditions in other parts of the world.

Quebec

Primary responsibility for air pollution control in this province is CDN-16 now vested in the Minister Responsible for the Quality of the Environment.

There is no specific legislation beyond the Public Health Act, which provides in general terms for the prevention and abatement of conditions hazardous to health. The Cities and Towns Act and the Municipal Code authorize municipalities to pass by-laws on the matter. Periodically, announcements are made concerning comprehensive legislation; however, to date none have been enacted.

New Brunswick

There is no specific Act beyond the Health Act, which, as mentioned, provides in general terms for the prevention and abatement of conditions hazardous to health. Eventually control will be instituted under a Clean Environment Act.

Nova Scotia and Prince Edward Island

In Nova Scotia, primary responsibility is vested with the Water Resources Commission under the Environmental Pollution Control Act. In Prince Edward Island, control is vested with the Environmental Control Commission through their Act. No regulations or criteria have been issued in either jurisdiction.

Newfoundland

Responsibility is vested in the Clean Air, Water and Soil Authority in accordance with the Clean Air, Water and Soil Authority Act of 1970, under which no regulations have yet been issued.

TRENDS

There have been considerable changes in air pollution control legislation during the past 2 years in Canada, at both the provincial and federal levels. With the entry of the Government of Canada into the field in 1971, it is likely that additional and more rapid changes will take place over the next few years, particularly in those provinces where control activities have been at a low level.

Maximum acceptable levels proposed at the end of 1971 as air quality objectives for sulfur dioxide, particulates (measured with the

Hi-Volume Sampler), carbon monoxide, oxidants, and hydrocarbons approximate the secondary standards of the United States. The maximum desirable levels proposed are much lower.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

In Canada, as in the United States, the Federal Government is becoming much more active in the field of air pollution control, earlier a concern almost entirely of the provinces. In parallel with these government activities, semiautonomous Research Laboratories have been active in environmental projects in the provinces, especially in Alberta and British Columbia. Under federal auspices, CDN-21,22 related programs involving wind-tunnel studies have been conducted at the National Aeronautical Establishment, and investigations in connection CDN-23 with monitoring of radioactivity in ambient air and with control of emissions have been carried out by Atomic Energy of Canada, Ltd., at Chalk River. CDN-24

Important contributions to monitoring activities and to research on control methods have been made over the years by major regional associations of industries. For example, the Lambton Industrial Society, an association CDN-38 of 12 local industries in the Sarnia area, sponsors the Ontario Research CDN-39 Foundation, which conducts continuing monitoring and research programs started in the early 1950's by the St. Clair River Research Committee. The Laval Industrial Association carries out a similar project for CDN-40 industries on the Island of Montreal, and the St. Maurice Industrial CDN-41 Association, for industries in the region of Shawinigan, 90 miles north of Montreal.

Engineering research in the measurement and control of industrial waste gases is conducted by a number of individual industries and trade associations. Pioneering work in the remote sensing of air pollutants, conducted by Barringer Research, Ltd., has led to the commercial CDN-25 development of systems for the measurement of gaseous sulfur dioxide, nitrogen dioxide and other vapors by observation from aircraft, satellites, or ground stations at some distance from the source. Extensive programs in the control of air quality and emissions are carried out by individual companies such as Canadian Industries, Ltd., in chemicals, Imperial Oil, Ltd., in petroleum refining, and Ontario Hydro in power generation. [illegible]

The trade associations operate in the field of air pollution control through strong technical committees. Examples are the Canadian Agricultural Chemical Association, which works closely with the federal Department of Agriculture, the Canadian Manufacturers of Chemical Specialties (a branch of the Canadian Manufacturers Association), and a number of associations in the oil industry. The Oil Heating Association of Canada is concerned with problems in urban air pollution control related to the use of heating oils, and the regional Petroleum Associations of Canada and Quebec are concentrating on emissions of hydrocarbons as well as the distribution and use of petroleum. The Petroleum Association for the Conservation of the Canadian Environment is a central body made up of the 17 major Canadian petroleum companies; it is concerned with the exchange of technical information developed in their separate research programs and with the coordination of the work of industry on air and water problems with federal and provincial agencies. CDN-35,37 CDN-34

Similarly, the Canadian Pulp and Paper Association represents that industry in relation to government. It also supports the Pulp and Paper Research Institute of Canada, jointly with the Federal Government and McGill University. The Institute conducts a diversified program involving all aspects of air and water conservation; most of the research for the industry as a whole is carried out under the cooperative program rather than by individual companies. In the same manner, the Mining Association of Canada represents the industry as a whole in relation to government. CDN-31 CDN-36 CDN-31

Academic training and research programs in the chemical and engineering aspects of air pollution control are conducted at most Canadian universities. A wide range of studies is offered at McGill and the University of Western Ontario. Studies on health effects are CDN-43 to 46 emphasized at the Universities of Alberta, British Columbia, York, and Montreal, on sulfur-containing and sour gases at Calgary and Lakehead, on dusts and aerosols at Toronto and Laurentian, and on meteorological dispersion at Waterloo. Interest in these programs is increasing rapidly.

A number of Canadian firms serve as consultants in the field of
air pollution control. Some are new firms such as Eco-Research, organized CDN-59
to work on environmental quality control, and others are engineering
companies such as H.G. Acres, Ltd., concerned with engineering aspects CDN-58
of the problem. A list of some 40 of these organizations, with an indication of their present areas of special interest, is given in Table 11, based on information supplied by the Ontario Department of the Environment.

There are also a large number of civic or social "anti-pollution" groups across the country. A list of 100 of these, as of October 1971, is provided in Table 12. A number of these groups are affiliated with the
the Canadian Scientific Pollution and Environmental Control Society in CDN-42
British Columbia or with Pollution Probe, a loosely knit association of
independent units which has a central office at the University of CDN-60
Toronto. Naturally, lists such as those in Tables 11 and 12 become rapidly out of date, particularly for the names of individuals.

Table II. CONSULTING FIRMS IN CANADA IN AIR POLLUTION CONTROL

NAME AND ADDRESS	CATEGORY IN AIR POLLUTION CONTROL					
	PLANT SURVEY	POWER PLANT	STACK SAMPLING	DISPER-SION	[illegible]	[illegible]
ACRES, H.G. & CO. LTD 20 Victoria St., Toronto 362-6131	X	X	X	X		
ALLSOP, R. P. & ASSOCIATES LTD. 275 Lesmill Road, Don Mills 445-3610	X	X		X		
ANGUS, H. H. & ASSOCIATES LTD. 1127 Leslie St., Don Mills 449-5050	X	X		X		
ATKINS, HATCH & ASSOCIATES LTD. 37 Bloor St. W., Toronto 5 927-6350	X	X		X		
BARRINGER RESEARCH LIMITED 304 Carlingview Drive, Malton 677-2419			X			X
BLENKHORN AND SAWLE LIMITED Grantham Avenue, St. Catharines 416-684-[illegible]	X	X		X		
BYRNE, M. R. & ASSOCIATES LTD. 985 Kingsway Drive, Burlington 416-637-7031	X	X		X		
CANADIAN BRITISH ENG. CONSULTANTS LTD. 801 York Mills Road, Don Mills 445-2100				X		
CAN-ENG CONSULTANTS LTD. 2800 Montrose Road, Niagara Falls 416-356-1327	X	X	X	X	X	
CARR & DONALD & ASSOCIATES LTD. 55 Yonge St., Toronto 1 363-7294	X				X	
CHEMICAL PROJECTS LIMITED 36 Greensboro Drive, Rexdale 247-8282	X		X			X
K. R. COULTER 21 Bellehaven Cr., Toronto (Scarborough)	X				X	

Table 11. CONSULTING FIRMS IN CANADA IN AIR POLLUTION CONTROL (Continued)

NAME AND ADDRESS	CATEGORY IN AIR POLLUTION CONTROL					
	PLANT SURVEY	POWER PLANT	STACK SAMPLING	INCINER-ATION	AIR CLEANING	RESEARCH
W. HARDY CRAIG & ASSOCIATES LTD. 2175 Victoria Park Ave., Scarborough 447-5501		X			X	
R. E. CROSSEY & ASSOCIATES LTD. 45 Charles St. E., Toronto 925-4185	X	X				
DAVIS, R.R. P. ENG. 296 Riverside Drive, Toronto 3 769-6862	X	X		X	X	
JOHN GARAY & ASSOCIATES LTD. 797 Don Mills Road, Suite 803, Don Mills 429-2880	X	X				
GIFFELS ASSOCIATES LIMITED 60 Adelaide St. E., Toronto 1 366-3781	X	X		X	X	X
HISEY AND BARRINGTON LTD. 7027 Yonge St., Thornhill 889-5423	X	X		X	X	X
HUMPHREYS AND GLASGOW (CANADA) LTD. 2774 Old Leslie St., Willowdale 221-3491	X			X	X	X
INDUSTRIAL PROCESS CONTROL (ONTARIO) LTD. P.O. Box 276, Station "F" Toronto 769-0742				X		
INTERPLAN LIMITED 45 Charles Street East, Toronto 925-2208		X		X		
KEITH ASSOCIATES LIMITED Consumers Road, Willowdale 493-1176		X		X		
KILLABY, PETER J., ENGINEERING LTD. 23 Chauncey Ave., Toronto 15 233-6031	X	X		X		
MACLAREN, JAMES F. LTD. 321 Bloor St. E., Toronto 5 924-7411	X	X		X	X	X

Table 11. CONSULTING FIRMS IN CANADA IN AIR POLLUTION CONTROL (Continued)

NAME AND ADDRESS	CATEGORY [illegible] POLLUTION CONTROL					
	PLANT SURVEY	PORTA PLANT	STACK SAMPLING	[illegible]	AIR [illegible]	
McGREGOR ASSOCIATES LIMITED 2404 Yonge St., Toronto 12 481-3638	X	X				
MARGISON, KEITH, SAGE & HAMLIN, ARCHITECTS & ENGINEERS 801 York Mills Road, Toronto 449-4811	X	X		X	X	
ONTARIO RESEARCH FOUNDATION Sheridan Park, Clarkson 822-4111			X			
C.C. PARKER & ASSOCIATES LTD. [illegible] Queensdale Ave. E., Hamilton 416-385-3234						
FOWLESLAND ENGINEERING LTD. 8th Ave. N., Woodbridge 851-1166	X	X		X	X	X
QUAN CARRUTHERS, KING & QUAN LTD. 933 Broadview Ave., Toronto 6 461-0373	X	X		X	X	
REID-CROWTHER & PARTNERS LIMITED 797 Don Mills Road, Don Mills 429-2960	X	X		X	X	
RESOURCES ENGINEERING OF CANADA LTD. 931 Yonge St., Toronto 5 925-9541	X	X		X	X	
ROSS JOHN H. & Associates Ltd. 171 Wilson Ave., Toronto 12 183-7681	X	X		X	X	
RYBKA, SMITH & GINSLER LTD. 209 Davanport Road, Toronto 5 924-9675	X	X	X	X		
SHENCO ENGINEERING CO. LTD. Toronto Dominion Centre 364-1594	X	X		X		X

Table 11. CONSULTING FIRMS IN CANADA IN AIR POLLUTION CONTROL (Continued)

NAME AND ADDRESS	CATEGORY IN AIR POLLUTION CONTROL					
	PLANT SURVEY	POWER PLANT	STACK SAMPLING	INCINERATION	AIR CLEANING	RESEARCH
SINOSKI & TURNER LIMITED 2028 Avenue Road, Toronto 485-0311	X	X		X		
SMITH & ANDERSEN CONSULTING ENGINEERING LTD. 305 Eglinton Ave. W., Toronto 305 487-8151	X	X		X		
SOUTHDOWN ENGINEERING CO. 2740 South Sheriday Way, Clarkson 416-822-4950						X
YOST, MEWS & ASSOCIATES LIMITED 311 Lesmill Road, Don Mills 499-4414	X	X		X	X	

Table 12. CANADIAN ANTIPOLLUTION GROUPS

ALBERTA

Pollution Watch (John Marsh)
ECO Centre
804A 1st Street, S.W.,
CALGARY

SPEC Calgary (Bill Kerr)
Box 1132
CALGARY

Pollution Control-S. Alberta(Dr.F.Lewis)
P.O. Box 472
LETHBRIDGE

Edmonton Anti-Pollution
  Group (Dr. D. Hocking)
Room 301
Mercantile Bldg.,
10182, 103rd Street,
EDMONTON

STOP,
Room 230
Student Union Bldg.
University of Alberta,
EDMONTON 7

BRITISH COLUMBIA

SPEC Campbell River (Bob Davies)
739 Ash Street,
CAMPBELL RIVER

BRITISH COLUMBIA(Continued)

Kootenay Pollution Control
  Association (Bruce Fraser)
Selkirk College,
CASTLEGAR

SPEC Chilliwack (Mrs. J. Cameron
Box 116
CHILLIWACK

SPEC Courtenay (Richard Hall
Box 628
COURTENAY

SPEC Dawson Creek (C. Sauer)
Central Junior Sec. Sch.
10701-10th Street,
DAWSON CREEK

SPEC Cowichan-Malahat(Kurt Horn)
RR 1,
DUNCAN

SPEC Gold River (Mrs. Perry)
Gold River Post Office,
Box 415
GOLD RIVER

SPEC Ridge-Meadows (J. Bressler)
21514 - 120th Ave.,
HANEY

BRITISH COLUMBIA (Continued)

SPEC Houston (Dr. A. Fabbi)
Box 9.
HOUSTON

SPEC Kamloops (Mrs. J. Negrin)
Box 244
KAMLOOPS

SPEC Kelowna (J. Fry)
Box 673
West Bank
KELOWNA

SPEC Kimberley (Ed de Paoli)
P.O. Box 75,
504 - 4th Ave.,
KIMBERLEY

SPEC Ladysmith (Mr. Timothy)
c/o Timothy Oysters
LADYSMITH

SPEC Lake Cowichan (Mrs. [illegible] Clark)
Box 741,
LAKE COWICHAN

SPEC Nanaimo (Nelson Allen)
Box 112
NANAIMO

[illegible]
[illegible]
P.O. Box 130,
[illegible]

Table 12. CANADIAN ANTIPOLLUTION GROUPS (Continued)

BRITISH COLUMBIA (Continued)

B.C. Environmental Council
Room 8,
1100 Lonsdale Ave.
NORTH VANCOUVER

SPEC N. Vancouver (Tom Taylor)
578 W. Kings Road,
NORTH VANCOUVER

SPEC New Hazleton (Rod Spooner)
Box 2
NEW HAZLETON

Slowcaw Lake KPCA
General Delivery
NEW DENVER

SPEC Port Alice (L.E.Butters)
Box 44,
PORT ALICE

SPEC Coquitlam (Jim Tonn)
1590 Thomas Ave.
PORT COQUITLAM

Powell River Anti-
Pollution Association
Box 31
POWELL RIVER

SPEC Prince Rupert (Ray de Boer)
Box 99
PRINCE RUPERT

BRITISH COLUMBIA (Continued)

Richmond Anti-Pollution
Group (Mrs. W.Rowde)
574 Westminster Highway
RICHMOND

SPEC Smithers (H.Kruisselbrink)
Box 802,
SMITHERS

SPEC Squamish (Mr. Dowling)
Howe Sound Secondary School
SQUAMISH

SPEC Tofino (D. Hatler)
Box 252
TOFINO

SPEC Vancouver (Jim Marunchak)
44 West 6th Avenue
VANCOUVER 10

E.C.O.
c/o Institute of Resource Ecology
University of British Columbia
VANCOUVER 8

Environment 100
Citizens Committee for an
Environmental Centre,
S.U.B. University of Victoria
VICTORIA

BRITISH COLUMBIA (Continued)

SPEC Victoria (Larry Devlin)
P.O. Box 5157
Postal Station B,
VICTORIA

SPEC Vernon (Mrs. A.I. Sovereign)
Kidston Road
RR2
VERNON

MANITOBA

Pollution Probe (Ron Bennett)
Room 102 N,
University Centre
University of Manitoba
WINNIPEG 19

NEW BRUNSWICK

Conservation Council of
New Brunswick (Allan Roy)
Dept. of Biology
University of N.B.
FREDERICTON

The Action Committee (Susan Hunter
42 Princess Street
ST. JOHN

Table 12. CANADIAN ANTIPOLLUTION GROUPS (Continued)

NEW BRUNSWICK (Continued)

The New Brunswick
  Conservation Society (K. Bacon)
St. John Chapter
Rothesay Collegiate School
ROTHESAY

NEWFOUNDLAND

Pollution Probe (M. Collins)
Dept. of Biology
Memorial University
ST. JOHN'S

The Working Group on
  the Environment,
P.O. Box 9245
ST. JOHN'S

NOVA SCOTIA

Bedford Basin
  Pollution Committee (J. O'Hagen)
171 Shore Drive
BEDFORD

Annapolis Valley
  Pollution Probe (L. Fraser)
P.O. Box 53
BERWICK

NOVA SCOTIA (Continued)

E.C.O. (Mrs. A. Parsons)
P.O. Box 3211
Halifax South Postal Station
HALIFAX

Pollution Probe Truro (E.F. Gittens)
Biology Dept.,
N.S. Teachers College
TRURO

Northumberland Straits
  Anti-Pollution (F. MacKay
Duke Street
TRENTON

The Nova Scotia Resources
  Council
Arcadia University
WOLFVILLE

ONTARIO

Pollution Probe Barrie
14 Marion Crescent
BARRIE

Pollution Probe
  Belleville (D. Clement)
9 Eastwood Park Drive
BELLEVILLE

ONTARIO (Continued)

Pollution Probe
  Brantford (M. Henderson)
9 Metcalf
BRANTFORD

Desideratum (F. Rossexer)
c/o McKim Bldg.,
DRESDEN

Citizens Committee for
  Pollution Control
1956 LaSalle Park Road
BURLINGTON

Pollution Probe Galt (G.R. Hancock)
George Hancock Textiles Ltd.
GALT

Pollution Probe Guelph(N.F.Stewart)
c/o Dept. of Mathematics
University of Guelph
GUELPH

COPE (M. Smith)
Gravenhurst High School
GRAVENHURST

GROP (Dr. T.MacFarlane)
705 Medical Arts Bldg.
HAMILTON

Table 12. CANADIAN ANTIPOLLUTION GROUPS (Continued)

ONTARIO (Continued)

Pollution Probe
Kincardine (Mrs. D. Thorn)
Box 709
KINCARDINE

The Quinte Assoc.(Dr. S.R. Behurriell)
RR 1,
KINGSTON

Soil Conservation Society
of America (W. D. Adlam)
Ontario Chapter,
48 Metcalf Ave.
KINGSTON

Pollution Probe Kingston (A. Armstrong)
Student Union Bldg.,
Queen's University,
KINGSTON

Anti-Pollution Club
K.L.C.V.I.,
KIRKLAND LAKE

Pollution Probe London (Robert Kok)
U.S.C. Offices
Somerville House
University of Western Ontario
LONDON 72

ONTARIO (Continued)

Committee of a
Thousand (N. Hitchenson)
P.O. Box 185
NIAGARA FALLS

Pollution Probe
Orillia (G. James)
Suite G1,
Medical Dental Building,
16 O'Brien Street,
ORILLIA

North Bay Pollution
Action Comm. (Mrs. C. Bangay)
28 Summit Drive,
NORTH BAY

Canadian Wildlife Fed.(R.C.Passmore)
1419 Carling Avenue
OTTAWA 3

Pollution Probe (P.J. Voisin)
Westhill Secondard School
9th Street West
OWEN SOUND

Pollution Probe at
Carleton (P. Reilly)
Carleton University
OTTAWA

ONTARIO (Continued)

Pollution Probe Grey
Bruce (D.J. Reid)
P.O. Box 583
OWEN SOUND

Pollution Probe
Parry Sound (E. Armbrust)
Parry Sound High School
PARRY SOUND

Pollution Probe
Port Hope (Mrs. P. Cawson)
Trinity College School
PORT HOPE

Pollution Probe
Peterborough (Mr. B. Stedwill)
Lady Eaton College
Trent University
PETERBOROUGH

Pollution Probe Sarnia(Dr.J. Higgins)
1956 Franklin
Brights Grove
SARNIA

Save Lake Erie
Committee (R.J. Dunlop)
45½ Scott Street
ST. THOMAS

Table 12. CANADIAN ANTIPOLLUTION GROUPS (Continued)

ONTARIO (Continued)

[illegible] Probe, [illegible] MacDonald [illegible]
[illegible]
[illegible]

[illegible] Anti-Pollution
Committee ([illegible])
[illegible]
[illegible]

[illegible]
[illegible]
ST. CATHARINES

Pollution Probe
(Scarborough) ([illegible])
[illegible]
SCARBOROUGH

[illegible] Ecological Society
[illegible]
PORT CREDIT

Pollution Probe at [illegible] (C. [illegible])
[illegible] Street
Suite [illegible]
[illegible]

[illegible]
[illegible] Committee (2. [illegible]ski)
[illegible] E.
[illegible]

ONTARIO (Continued)

Canadian Anti-Pollution [illegible]
Committee
[illegible]
[illegible]
[illegible]

[illegible]
[illegible]
[illegible]
University of Toronto
TORONTO

[illegible]
Box [illegible]
Postal Station [illegible]
TORONTO

Group Action to Stop
Pollution
[illegible] Street [illegible]
TORONTO

Zero Population Growth
Dept. of Zoology
University of Toronto
TORONTO

[illegible]
[illegible]
[illegible]
TORONTO 7

ONTARIO (Continued)

The Canadian Audubon Society
46 St. Clair Ave. East
TORONTO 7

Canadian Association on the
Human Environment (F. [illegible])
[illegible] Queen's Park Cres. E.
TORONTO

[illegible] Conservation
[illegible]
P.O. Box [illegible]
TORONTO

[illegible]
[illegible] Drive
[illegible]

[illegible]
[illegible]
University Centre,
University of Windsor
WINDSOR

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

Table 12. CANADIAN ANTIPOLLUTION GROUPS (Continued)

ONTARIO (Continued)

PRESERVE (N. Johnson)
287 Greenbriar Road
ANCASTER

Plympton Pollution Probe (J. Tierney)
RR #1,
WYOMING

Pollution Probe Oakville (R.G. McIvor)
548 Brookside Drive
OAKVILLE

Committee Urging Restoration of
the Environment (CURE) (K.A. Morand)
143 Victoria Street
MIDLAND

Pollution Probe Woodstock (P. Steinberg)
Woodstock Collegiate Inst.
Riddell Street
WOODSTOCK

QUEBEC

Societe pour Vaincre (Mme. H.LaJambe)
4582 Hampton
MONTREAL 261

QUEBEC (Continued)

S.T.O.P. (S. Shulman)
14 Cedar Ave.
Pointe Claire
MONTREAL

La Mouvement de Resistance
a la Pollution
6424 Rue St. Denis
MONTREAL 326

Citizens for Social
Responsibility in Science
Hum. of Science Dept.
Sir George Williams University
MONTREAL

SASKATCHEWAN

Pollution Probe Regina (K. Kinzel)
133 Davidson Cres.,
REGINA

ENVAC (J. McCart)
P.O. Box No. 1043
FORT QU'APPELLE

SASKATCHEWAN (Continued)

Saskatoon Environmental
Society (S.E.S.)(Dr. W. Steck)
National Research Council Lab.
University of Saskatoon
SASKATOON

also

Dept. of Biology (Brian Felske)
University of Saskatoon

CDN	1	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME Air Pollution Control Directorate
Department of the Environment

ACRONYM

See also

ADDRESS
Environmental Health Centre
Tunney's Pasture, Ottawa
K1A 0H3

Tel

AFFIL Dept. of the Environment;
Mr. Jack Davis, Minister;
Dr. R. F. Shaw, Dep. Minister;
A. Lucas, [illegible], Asst. Deputies

Title	PERSONNEL	Function
Dr.	S. O. Winthrop	Director General
	J. Christman	Dir., Abatement & Compliance
	[illegible]	Dir., Air Quality Programs
	T. R. Ingraham	Dir., Technology Development Scientific Services

AP aims and actions

Administers Federal Clean Air Act

National air pollution surveillance network (NAPS)

Field surveys on specific problems; e.g., arsenic exposure, isolation and measurement of polynuclear aromatics from urban environments

Coordinates activities of provincial departments of health and environment, in the field of air pollution control

Comments

Now reorganizing staff and operations taken over in 1971 from the Dept. of National Health and Welfare.

CDN		GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Canadian Meteorological Service

ACRONYM

See also

ADDRESS
315 Bloor St. W.
Toronto 181, Ontario

Tel

AFFIL

Department of the Environment

Title	PERSONNEL	Function
Dr.	R. E. Munn	Supervisor, Micro-Meteorological Research
	J. R. H. Noble	Chief

AP aims and actions

Research includes punched card central repository for AP data in Canada. Fundamental research on turbulent diffusion; advice to all national, provincial and community agencies.

Comments

CDN	3	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Road and Motor Vehicle Traffic Safety Branch

Department of Transport

ACRONYM:

See also

ADDRESS

Ottawa

Tel

AFFIL

Ministry of Transport,
Mr. J. Stonner, Asst. Deputy Minister

Title	PERSONNEL	Function
	Gordon Campbell	Director

AP aims and actions

Administers emission regulations for automotive emissions, as provided in The Motor Vehicle Safety Act.

Regulations are drafted by Dept. of the Environment, Div. of Abatement and Compliance, who also monitor for compliance.

Comments:

CDN	4	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Environmental Secretariat

National Research Council of Canada

ACRONYM

See also

ADDRESS

100 Sussex Drive
Ottawa, Ontario K1A-0R6

Tel

AFFIL

Title	PERSONNEL	Function
	Gordon C. Butler	Chief
Dr.	I. Hoffman	Secretary, Associate Committee on Criteria
Dr.	H. Preston Sanderson	Secretary, Sub-Committee on Air

AP aims and actions

Ad-hoc committees drawn from the government, industry, and university personnel, to establish environmental criteria.

Information center for research on environmental concerns. Directs research of National Aeronautical Laboratory (CDN-21).

Comments

CDN [illegible] 0010 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 [illegible] 12/71 [illegible] 5 1
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME International [illegible] Commission, Canadian Section

ACRONYM

See also

ADDRESS [illegible]
[illegible] Street
Ottawa, Ontario [illegible]

Tel. [illegible]

AFFIL.

Title	PERSONNEL	Function
[illegible]	[illegible]	Chairman
	[illegible]	Secretary
	[illegible] M. Thompson	Technical Advisor

AP aims and actions

[illegible] recommendations to governments [illegible] conditions of trans-border pollution, both air [illegible] boundary.

[illegible]

Comments

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 [illegible] 5
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Alberta Department of [illegible] Environment

ACRONYM

See also

ADDRESS [illegible] Building
[illegible]
Edmonton, Alberta

Tel. [illegible]

AFFIL.
[illegible] W.L. Yurko, [illegible]

Title	PERSONNEL	Function
	[illegible] Hodge	Director, Standards & Approvals Division
	[illegible] Kupchanko	Director, Pollution Control Division

AP aims and actions

[illegible] AP [illegible] air [illegible]

[illegible]

Comments

Provincial Board of Health,
same office,
Dr. P. B. Rose, Chairman
H.L. Hodge, Vice Chairman

CDN	7	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Pollution Control Branch, British Columbia
Dept. of Lands, Forests, and Water Resources

ACRONYM:

See also

ADDRESS:
Parliament Buildings
Victoria, B.C.

Tel: 604-382-6111

AFFIL:

Title	PERSONNEL	Function
	W. H. Venables	Director
	M. W. Slezak	Chief, Projects and Research

AP aims and actions:

Comments:

CDN	8	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	[illegible]	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Department of Health Services and Hospital Insurance,
British Columbia

ACRONYM

See also

ADDRESS:
Parliament Buildings
Victoria, B.C.

Tel

AFFIL

Title	PERSONNEL	Function
	William Bailey	Director

AP aims and actions:

Comments:

Issues health standards for air quality control.

Surveys on health effects.

CDN 6 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Air Pollution Control Branch

Vancouver

ACRONYM

See also

ADDRESS

Departments of Permits and Licenses
453 W. 12th Avenue
Vancouver 10, B.C.

Tel 604-873-7559

AFFIL

Vancouver City Council

Title	PERSONNEL	Function
Dr.	H. L. Bryson	Director, Department of Permits and Licenses
	T. Satterthwaite	Chief Air Pollution Control Officer

AP aims and actions

Comments

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Smoke Abatement Committee

Corporation of the City of Victoria

ACRONYM

See also

ADDRESS

[illegible] Centennial Sq.
Victoria, B.C.

Tel 604-[illegible]

AFFIL

Title	PERSONNEL	Function
	W.N. Jergenson	Deputy City Engineer
	S.C. Mottishaw	Smoke Inspector

AP aims and actions

Comments

CDN 11 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Air Management Division,
Occupational Health Branch, (Saskatchewan)

ACRONYM
See also

ADDRESS Department of Public Health
3211 Albert St.
Regina, Sask.

Tel 306-523-0661
AFFIL

Title	PERSONNEL	Function
Dr.	C. A. R. Dennis	Director
	Robert R. Sentis	Environmental Health Engineer

AP aims and actions

Monitoring and public health surveys.

Research on agricultural effects of salt dust from potash refineries, joint projects between government, the Saskatchewan Mining Association, the Saskatchewan Research Council, and university departments.

Comments

CDN 12 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Clean Environment Commission of the Province of Manitoba

ACRONYM
See also

ADDRESS [illegible]
401 York Avenue
Winnipeg 1, Man.

Tel
AFFIL

See Table I

Title	PERSONNEL	Function
Dr.	Peter Warner	Chairman
	William M. Ward	Associate Director

AP aims and actions

Monitoring: research on methods of control.

Now being reorganized as Environmental Protection Branch.

Comments

CDN 11 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Environmental Health Laboratory
Manitoba Department of Health

ACRONYM
See also

ADDRESS
Room 1015
Norquay Building
401 York Avenue
Winnipeg 1, Manitoba

Tel
AFFIL

Title	PERSONNEL	Function
	William M. Ward	Public Health Chemist
	Michael V. Lysyk	
	D. Grieve	

AP aims and actions

Monitoring and analysis of air [illegible] emission in the Greater Winnipeg area.

Comments

[illegible] 12/74 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Ontario Air Management Branch
Ontario Dept. of Energy and Resources Management

ACRONYM
See also

ADDRESS
880 Bay Street
Toronto, Ontario

Tel 416-[illegible]
AFFIL

See page [illegible]

Title	PERSONNEL	Function
	Conrad Brawley	Director
	Colin Macfarlane	Asst. Dir.
	Tom [illegible]	Asst. Dir.

[illegible], A.J. and Meteorology; J.C. Jeffries [illegible], [illegible] Trivett, Abatement; A.C. Rayner, [illegible] A.E. Martin, Approvals; S.N. Linzon, [illegible]biology, E.I. Templemeyer, Special Studies

AP aims and actions

Responsible for AP control throughout the Province.
[illegible] monitoring network, [illegible], Hamilton, Windsor, Sudbury and [illegible] AP index.
Research on [illegible], stack sampling program. Emission standards, [illegible] source approvals, motor vehicle [illegible], heavy metals in air, damage to vegetation.
Sponsors research at universities and foundations.
Service and advice to other government departments and communities.

Comments:

Staff of 85 engineers & scientists, 107 technicians and inspectors.

CDN	15	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Canadian Combustion Research Laboratory

ACRONYM:

See also

ADDRESS

555 Booth St.
Ottawa 1, Ontario

Tel

AFFIL

Federal Dept. of Energy,
Mines and Resources

Title	PERSONNEL	Function
	E. R. Mitchell	
	G. K. Lee	
	H. Whaley	

AP aims and actions

Research on combustion procedures, effect of additives and blue-flame combustion in oil-fired burners. Atmospheric dispersion from tall stacks.

Comments

CDN	16	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Quebec Department of Environmental Quality

ACRONYM

See also

ADDRESS

1075 Chemin Ste-Foy
Quebec, Que.

Tel 418-[illegible]-6450

AFFIL

See table 1

Title	PERSONNEL	Function
	Jean A. Roy	Director
	Jean-Paul Pare	Assistant Director (Montreal)

AP aims and actions

New department assuming staff and control functions formerly under the Department of Health.

Comments

CDN 17 2112A A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME The Air Purification Department,
Montreal Urban Community

ACRONYM

See also

ADDRESS
[illegible] Sherbrooke St. E.,
Montreal [illegible], Que.

Tel. [illegible]

AFF.

Title	PERSONNEL	Function
	Jean Marier	Director
	[illegible] Gerard	Assistant Director
Dr.	R. [illegible]	Medical Advisor
	Walter Brabant	Supt. Div. of Laboratories

AP aims and actions

Comments

[illegible] stations.

[illegible] control [illegible]

[illegible]

CDN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS
[illegible]
[illegible]

Tel.

AFF.

Title	PERSONNEL	Function
Dr.	[illegible]	Chairman

AP aims and actions

Comments

[illegible] as defined by the Environmental Protection [illegible] Act.

CDN 19 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Nova Scotia Department of Public Health

ACRONYM:

See also

ADDRESS

P.O. Box 488
Halifax, N.S.

Tel

AFFIL

Deputy Minister; [illegible] S. Robertson, M.D.
(See Table 1)

Title	PERSONNEL	Function

AP aims and actions:

Retains controls on occupational health; other control activities vested in Water Resource Commission [illegible].

Comments:

CDN GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Inspection Services
City of Halifax

ACRONYM:

See also

ADDRESS

P.O. Box 1670
Halifax, N.S.

Tel [illegible]

AFFIL

City of Halifax Committee on Works

Title	PERSONNEL	Function
	G. B. Jefferson	Supervisor, Inspection Services

AP aims and actions:

Comments:

CDN 31 REC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Alberta Research Council

ACRONYM

See also

ADDRESS

87th and [illegible]
Edmonton, Alberta

Tel

AFFIL

Title	PERSONNEL	Function
	Peter W. Summers	Research Meteorologist

AP aims and actions

Comments

Research on [illegible]

[illegible] from [illegible]
[illegible] extraction,
[illegible]

CDN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] Council

ACRONYM

See also

ADDRESS

[illegible]
Edmonton [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
	[illegible] McIntyre	Director
	[illegible] Williams	

AP aims and actions

Comments

Surveys of H_2S and other [illegible] contributing to air pollution from [illegible] operations.

Identification of [illegible].

Instrument development.

Process research [illegible] and condensate stripping.

CDN 23 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME National Research Council,
National Aeronautical Establishment

ACRONYM

See also

ADDRESS
Ottawa 2, Ont.

Tel

AFFIL
See National Research Council (CDN-04)

Title	PERSONNEL	Function
	P. J. Pocock	

AP aims and actions

Wind tunnel diffusion studies.

Comments

NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Environmental Research Branch,
Atomic Energy of Canada, Ltd.

ACRONYM

See also

ADDRESS
Chalk River Nuclear Laboratory
Chalk River, Ontario

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	Peter J. Barry	

AP aims and actions

Air monitoring program and emission controls for radioactive nuclides.

Comments

CDN 35 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Barringer Research, Ltd.

ACRONYM

See also

ADDRESS

304 Carlingview Drive
Rexdale, Ontario

Tel. 416 [illegible]

AFFIL

Title	PERSONNEL	Function
	A. R. Barringer	
	John H. Davies	Manager, R & D

AP aims and actions

Comments

Instrumentation research and development, applications of correlation spectrometry for detection and measurement of gaseous SO$_2$, NO$_2$, mineral vaporization by deposits of mercury and iodine.

Conducts industrial and sponsored research.

[illegible] aircraft and satellites.

CDN [illegible] IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Canadian Industries, Ltd.

ACRONYM CIL

See also

ADDRESS

P.O. Box 10,
Montreal, Quebec

Tel

AFFIL

(Dupont of Canada, Ltd.)
[illegible] Straight
(President, Chemical Inst. of Canada)

Title	PERSONNEL	Function
	K. L. Cooke	Principal Chemical Engineer

AP aims and actions

Comments

Control and incineration of SO$_2$ and other industrial waste gases.

CDN 27 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Imperial Oil Ltd.
Environmental Protection Coordinator

ACRONYM

See also

ADDRESS
111 St. Clair Avenue West
Toronto, Ontario

Tel

AFFIL

Title	PERSONNEL	Function
	Harvey H. Clare	Coordinator
	G.R.H. Fern	Asst. Coordinator
	Hugo R. Holland	Engineering Div., Res. Dept. (Imperial Oil Enterprises, Sarnia)

AP aims and actions

Maintains a research program of engineering research and development for air pollution surveys and controls at each refinery and producing area.

Comments

Similar offices are maintained in other major industries. (See CDN-3[illegible])

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Ontario Hydro

ACRONYM

See also

ADDRESS
[illegible] Kipling Avenue,
Toronto 18, Ontario

Tel

AFFIL
Ontario Hydro Commission,
[illegible] Gat[illegible]

Title	PERSONNEL	Function
	[illegible] W. Kerr	

AP aims and actions

Research on power plant emissions, flue gas desulfurization by limestone injection.

Comments

CDN 29 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Canadian Agricultural Chemical Assn.

ACRONYM: CACA

See also

ADDRESS

[illegible] St. Catherine St. W.
Montreal, Quebec

Tel [illegible]-7015

AFFIL

Title	PERSONNEL	Function
	Jacques Chevalier	Exec. Secretary, Runs CACA and C.M.C.S.A. from same office

AP aims and actions

[illegible] manufacturers, distributors, and [illegible] of a wide variety of pesticides, herbicides, etc. Strong technical committee, has worked closely with the Federal Dept. of Agriculture.

Comments

[illegible] ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Canadian Manufacturers of Chemical Specialties Assoc.

ACRONYM: CMCSA

See also

ADDRESS

[illegible] St. Catherine St. W.
Montreal, Quebec

Tel [illegible]

AFFIL

Branch of Canadian Manufacturers Assoc.

Title	PERSONNEL	Function
	Jacques Chevalier	Executive Secretary

AP aims and actions

Technical committee is concerned mainly with water problems, since members deal mainly with soaps, detergents, and cleansers; can also supply advice and direction on air problems.

Comments

CDN 31 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Canadian Pulp and Paper Association

ACRONYM

See also

ADDRESS

Dominion Centre
Toronto, Ontario

Tel

AFFIL

See Pulp and Paper Institute CDN-36

Title	PERSONNEL	Function
	R.M. Fowler	President

AP aims and actions

Represents industry in discussions with government and with the public on problems in environmental quality.

Coordinates research and engineering efforts on new methods and installations for pollution control.

Comments

CDN [illegible] ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME The Mining Association of Canada

ACRONYM

See also

ADDRESS

[illegible] Toronto Street
Toronto [illegible], Ont.

Tel

AFFIL

Title	PERSONNEL	Function
	F.F. Todd	President
	J.L. Bonus	Managing Director(Ottawa)
Dr.	Wallace R. Horn	Research Coordinator

AP aims and actions

Represents the industry in problems relating to environmental controls, including conservation of quality of air and water.

Comments

CDN	33	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME OIL HEATING ASSOCIATION OF CANADA

ACRONYM:

See also

ADDRESS

2 St. Clair Ave. W.
Suite 1204
Toronto, Ontario
Tel 416 366-6811
AFFIL

Title	PERSONNEL	Function
	H. David Spielman	Gen. Manager
	John T. MacDowell	Exec. Secretary

AP aims and actions

Assembles subcommittees to deal with specific problem areas. Commissioned Dr. M. Katz to prepare report on Toronto which appeared finally as "Urban Air Pollution Control". Active in discussions of the Montreal A.P.C. By-Law.

Comments

Promoting use of heating oils.

CDN	33	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME CANADIAN CHEMICAL PRODUCERS ASSOCIATION

ACRONYM: CCPA

See also

ADDRESS

2121 Tower
Place de Ville,
Ottawa
Tel 613-237-6215
AFFIL

Title	PERSONNEL	Function
Mr.	Wilbert L. Canniff	Technical Director

AP aims and actions

Environmental Quality Committee holds 8 regular meetings per year.

Has completed an audit of air and water emissions of all affiliated member companies.

Comments:

CDN	34	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME Petroleum Association for the Conservation of the Canadian Environment

ACRONYM PACE

See also

ADDRESS

Dr. J.D. Lovering, President
c/o Gulf Oil Canada
800 Bay St., Toronto, Ontario

Tel 416 924-4141

AFFIL

Title	PERSONNEL	Function
	H.H. Clare	Vice President
	B. Rabinett	Secretary

AP aims and actions Provide for the exchange of technical information on pollution control, a single source to which Government agencies can refer for help and information on industry problems.

Technical subcommittees have extensive discussions on air and water problems with Federal and Provincial agencies.

Comments Made up of the refining industry coordinators of environmental protection or equivalent.

Now being organized and chartered. expect to have staff in 1972.

OTHER MEMBERS:

E. Howe	- BP - Montreal
J. Kohler	- Golden Eagle - Montreal
A.L. Irving	- Irving Oil Co. - St. John, N.B.
J.J. Minard	- New York Refining - 90 Park Ave.,N.Y.,N.Y. 10016
W. Sidjak	- Pacific Pet - Calgary
J.J. MacDonald	- Petrofina - Montreal
B. Rabinett	- Shell Canada - Toronto
F.A. Bain	- Sun - Toronto
R.A. Shaver	- Texaco Canada - Montreal
D.B. Furlong	- Canadian Petroleum Assn., Suite 400 - 130 Albert St., Ottawa

CDN 35 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME PETROLEUM ASSOCIATION OF ONTARIO

ACRONYM: OPA

See also

ADDRESS
11th Floor, Board of Trade Bldg.
11 Adelaide St. W.
Toronto, Ontario
Tel 416 366-6811
AFFIL

Title	PERSONNEL	Function
	D.C. Kay, Jr.	Exec. Secretary

AP aims and actions

Has a standing technical committee which meets monthly. In cooperation with PACE (CDN-34) has been discussing hydrocarbon emissions control with Ontario Air Management Branch.

Comments

ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Pulp and Paper Research Institute of Canada

ACRONYM:

See also

ADDRESS
[illegible] St. John's Blvd.
Pt. Claire, Quebec
Tel
AFFIL

See Pulp and Paper Assn., CDN-31

Title	PERSONNEL	Function
Dr.	Pierre Gendron	President
	B.W. Burgess	Exec. Vice President

AP aims and actions:

Extensive research program on all aspects of new methods and controls for maintaining quality of the environment.

Measurement and abatement of Kraft mill emissions.

Comments:

Maintained jointly by Canadian Federal Government, the pulp and paper industry, and McGill University.

CDN 37 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Quebec Petroleum Association

ACRONYM: QPA
See also

ADDRESS
180 Beaver Hall Hill
Montreal, Quebec

Tel: 514 866-2867
AFFIL

Title	PERSONNEL	Function
Pres.	A.N.D'Eschambeault	Imperial Oil., Ltd. Place Ville Marie Montreal

AP aims and actions

Works with Laval Industrial Association (CDN-[illegible]) in Montreal which is the main theater of activity. Can deal with emission problems as they arise.

Comments

No permanent staff yet but plan to hire.

CDN [illegible] ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Lambton Industrial Society

ACRONYM
See also

ADDRESS
Suite II.
360 Exmouth Street
Sarnia, Ontario

Tel
AFFIL

Title	PERSONNEL	Function
	- - -	Manager
	(H.M. Jones, deceased)	

AP aims and actions:

Association of twelve major industries in the St. Clair River area, for common problems including environmental quality.

Has sponsored air quality measurements by Ontario Research Foundation since early '50's. (CDN-39)

Comments

Continuing programs started by. St. Clair River Research Committee

CDN	39	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Ontario Research Foundation

ACRONYM:

See also

ADDRESS
Sheridan Park
Ontario

Tel 416 822-4111

AFFIL (St. Clair River Research Committee) Lambton Industrial Society (CDN-38)

Title	PERSONNEL	Function
Dr.	H.G. McAdie	Director, A.P. Research

AP aims and actions:

Private organization sponsored by industry, maintains a permanent laboratory in Sarnia and five monitoring stations (three of them mobile), for meteorological conditions, SO_2, H_2S, NO_x, oxidants, hydrocarbons, particulates and aerosols.

Conducts research on control of NO_x, SO_2, and H_2SO_4 aerosols, sponsored by Ontario Dept. of the Environment (CDN-14).

Air pollution instrumentation developments.

Comments:

CDN	40	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Laval Industrial Association

ACRONYM:

See also

ADDRESS
5715 East Metropolitain
St. Leonard, Quebec

Tel

AFFIL

Title	PERSONNEL	Function
	M. Magnin	Director

AP aims and actions:

Continuous monitoring for major air pollutants by a cooperative effort of local industries in the east end of the island of Montreal.

Improvements in instrumentation for monitoring.

Comments:

CDN	41	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: St. Maurice Industrial Association

ACRONYM:

See also

ADDRESS

2532 Des Hetres
P.O. Box 571
Shawinigan, Quebec

Tel

AFFIL

Title	PERSONNEL	Function
	--	Director

AP aims and actions:

Assessment of air quality in the St. Maurice region, 90 miles north of Montreal, by a cooperative program of continuous monitoring sponsored by local industries.

Comments:

CDN	[illegible]	SOC	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Canadian Scientific Pollution and Environmental Control Society

ACRONYM: SPEC

See also

ADDRESS

[illegible] West 6th Ave.
Vancouver 10, British Columbia

Tel

AFFIL

Title	PERSONNEL	Function
	D. Millard	Executive Director
	W. Terry	President, Vancouver Branch

AP aims and actions

The province has not been a leader in environmental protection, lagging well behind Ontario and Alberta. SPEC has been very active in attempting to change this position and stimulate effective action. Present main concern is controls on oil movement down the West Coast from Alaska.

Comments

Has branches in most larger centers in British Columbia.

CDN 43 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Trace Analysis Research Centre
Dalhousie University

ACRONYM

See also

ADDRESS
Dept. of Chemistry
Dalhousie University
Halifax, Nova Scotia

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	D. E. Ryan	Director

AP aims and actions

Air Pollution research is a major group objective.

Comments

Operating on grant received--
$359,000

CDN [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Lakehead University
Chemical Engineering Group

ACRONYM

See also

ADDRESS
Postal Station P.
Thunder Bay, Ontario

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	R.G. Rosehart	Co-ordinator of Chem. Engineering Group

AP aims and actions

Research on pulp mill and smelter air pollutants. Training courses on air pollution.

Comments

CDN [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/73 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Laurentian University

Institute for Fine Particles Research

ACRONYM

See also

ADDRESS

Sudbury,
Ontario

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	Brian Kaye	Director

AP aims and actions

Aerosol Research

Comments

CDN [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME McGill University

Dept. of Medicine

ACRONYM

See also

ADDRESS

Montreal, Quebec

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	D.V. Bates	Chairman, Dept. of Physiology, and Chairman, McGill Interdisciplinary Committee on Air Pollution

AP aims and actions

Medical and biological effects of air pollution.

Dust analysis, effects of particle size on industrial hazards

Effects of oxidant, primarily ozone, on the human lung

Comments

CDN 47 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Interdisciplinary Committee for Environmental Quality
University of Alberta

ACRONYM

See also

ADDRESS
Dept. of Pharmacology
University of Alberta
Edmonton, Alberta

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	E.E. Daniel	Professor and Chairman of Dept. Chairman of Committee as well as working group on air pollution

AP aims and actions

Research on epidemiology studies in Alberta, air quality and effects of air pollutants on respiratory function.

Comments

CDN 48 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME The University of British Columbia
Dept. of Chemistry

ACRONYM

See also

ADDRESS
Vancouver 8, British Columbia

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	E.A. Ogryzlo	Prof. of Chemistry

AP aims and actions

Research on photochemical reactions and effects on polymers and aircraft exhausts.

Comments

Spends about 25% of total time on air pollution studies.

CDN 49 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME University of British Columbia
Dept. of Health Care and Epidemiology

ACRONYM
See also

ADDRESS
Vancouver, British Columbia

Tel
AFFIL

Title	PERSONNEL	Function
Dr.	C.J.G. Mackenzie	Chairman
Miss	Jessie MacCarthy	Epidemiologist

AP aims and actions

Epidemiological studies under a Government of Canada Public Health research grant.

Comments

Dr. B. Ferris of Harvard now a visiting Professor.

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME University of Calgary
Faculty of Arts and Sciences

ACRONYM
See also

ADDRESS
Calgary 44, Alberta

Tel
AFFIL

Title	PERSONNEL	Function
Dr.	J.B. Hyne	Director, Fundamental Sulfur Research group of Alberta Sulfur Research, Ltd.

AP aims and actions

Research into control of sulfur containing gases from sour gas processing plants and stack gases.

Projects on stack dispersion, optical methods of analysis.

Comments

CDN 51 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME University of Montreal
School of Public Health

ACRONYM:
See also

ADDRESS
2375 St. Catherine Road
Montreal 251, Quebec

Tel
AFFIL

Title	PERSONNEL	Function
Dr.	S. Jegier	

AP aims and actions

Conducts government-sponsored research on effects of air pollution in vitro and on photosynthesis.

Comments

CDN [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME University of Toronto
Department of Civil Engineering

ACRONYM
See also

ADDRESS
Toronto, Ontario

Tel
AFFIL

Title	PERSONNEL	Function
Prof.	A.P. Bernhardt	

AP aims and actions

Courses and research, Air Pollution Control

Comments

CDN 33 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 5 T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME University of Toronto
Institute of Environmental Sciences and Engineering

ACRONYM
See also

ADDRESS

Toronto, Ontario

Tel
AFFIL

Title	PERSONNEL	Function
Dr.	P.H. Jones	Chairman Nine other faculty members in air pollution working groups.

AP aims and actions

Broad multi-disciplinary environmental studies including air pollution with some graduate courses.

Study of particulates, mists of metals and pesticides.

Comments

ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71
No Type Functions Sources Effects Controls Remedies Size Status Date

NAME University of Waterloo
Dept. of Mechanical Engineering

ACRONYM
See also

ADDRESS

Waterloo, Ontario

Tel
AFFIL

Title	PERSONNEL	Function
Dr.	G.T. Csanady	Prof. of Mechanical Engineering

AP aims and actions

[illegible] dispersion and plume rise.

Diffusion and distribution of urban automotive pollutants.

Comments

CDN	55	ACD	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME The University of Western Ontario
Faculty of Engineering Science

ACRONYM:

See also

ADDRESS
London 72, Ontario

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	J.L. Sullivan	Director, Environmental Engineering
Prof.	I.I. Inculet	Chairman, Electrical Engineering
Dr.	J.M. Beeckmans	
Dr.	K.A. Shelstad	

AP aims and actions

Master of Engineering courses

Research electrostatic precipitation; gas catalysis; air quality and effects

Comments:

CDN	56	ACD	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME The University of Western Ontario
Air Environment Research Group

ACRONYM:

See also

ADDRESS
London 72, Ontario

Tel

AFFIL

Title	PERSONNEL	Function
Prof.	I.I. Inculet	Chairman

AP aims and actions

Interdisciplinary studies on administration, control measurement and effects of air pollution. Approximately 30 members.

Comments:

CDN 57 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME York University

Faculty of Science

ACRONYM

See also

ADDRESS

4700 Keele Street
Toronto, Ontario

Tel 416 635-3914

AFF

Title	PERSONNEL	Function
Dr.	H.N. McFarland	Prof. Natural Science
Dr.	Morris Katz	Prof. Chemistry

AP aims and actions

Comments

Undergraduate and graduate teaching.

Research on health effects, analytical techniques and photochemistry.

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58 CNL A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

No Type Functions Sources Effects Controls Remedies Size Status Date

NAME H.G. Acres, Ltd.

ACRONYM

See also

ADDRESS

[illegible] Dorchester Road
Niagara Falls, Ontario

Tel [illegible]

AFF

Title	PERSONNEL	Function
Mr.	M.J. Hobson	Executive Engineer Vice President

AP aims and actions

Comments

Consulting engineering, related to control and abatement of air pollution.

CDN 59 ONB A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]-Research, [illegible]

ACRONYM

See also

ADDRESS

[illegible] Blvd.
[illegible], P.Q.

Tel.

AFFIL.

Title PERSONNEL Function

Dr. Louis P. [illegible]

Paul [illegible]

AP aims and actions

[illegible] environmental quality
[illegible]

Comments

[illegible] are the former
[illegible]
[illegible] Laval and St. [illegible]
[illegible] Industrial Association,
respectively.

[illegible] 60B A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] Probe

ACRONYM

See also

ADDRESS

[illegible]
[illegible] St.
[illegible]

Tel.

AFFIL.

Title PERSONNEL Function

Dr. Eugene [illegible]

AP aims and actions

[illegible] of [illegible] action groups
[illegible] (see Table 2).

Comments

CARIBBEAN

BARBADOS

There are no air pollution controls in Barbados, since any emissions are quickly dispersed by constant breezes across the ocean.

BERMUDA

No specific organizations are active in air pollution control; low-lead gasoline has been proposed for automobile use, however.

DOMINICAN REPUBLIC

Complaints of air contamination from increased production of cement plants near Santo Domingo have led the government to consider enacting new environmental controls. Other sources near the capital city include a chemical plant and several power plants. No specific organizations for air pollution control were set up by the basic Public Health Law of 1956, which is administered by the Secretary of Public Health.

JAMAICA

The island is subject to no broad area inversions, although some local morning inversions occur in Kingston. A significant source of air pollution has been dust from bauxite production, chiefly from the drying kilns and from the handling of dried materials. The Minister of Health, through the Central Board of Health, is responsible for air pollution control, under the Clean Air Law of 1961. Actions relative to mining dusts are supervised by the Safety and Pollution Section of the Department of Mines.

Monitoring of sulfur dioxide and dusts is conducted as a part of the Pan American Health Organization network of environmental stations in the Americas. The Ministry of Health is considering a Public Health Laboratory to expand these stations for additional research. The University of the West Indies in Kingston has offered studies on the effects of dusts, cosponsored by the government.

SURINAM

No air pollution controls are required on the island.

TRINIDAD

Principal environmental concerns have been the burning of sugar cane prior to reaping and the oil pollution of waterways. The Trinidad Chamber of Commerce is gathering information on the effects of air pollution in the cities and industrial areas.

CHILE

Air pollution in Chile is a problem primarily in the capital city, Santiago, which has a population of 2.7 million and 60 percent of the industry in the country. Primary factors in pollution in Santiago are the 60,000 automobiles, the complete lack of industrial zoning for factories, and the general use of small incinerators of poor combustion quality for the disposal of domestic and commercial wastes.

The capital is located at the end of the long central valley between the coastal plateau and the Andes, and pollution effects are aggravated by climatic conditions. Concentrations of sulfur dioxide and suspended dust regularly exceed desired limits. Auto exhausts are less critical at present but are also excessive at times. The public is well aware of the problem, which is especially severe in the center of the city and along major highways in the valley. Two smaller industrial cities, each with a population of one-half million, are Valparaiso, where petroleum refining vapors are found, and Concepcion, which has a problem with general industrial smoke.

Responsibility for air pollution control in Chile is divided among various concerned ministries, as opposed to the designation of a single agency. In April 1971, a decree created an interministerial Permanent Commission against Environmental Contamination. [illegible] the Minister of Health as Chairman and with the membership to include the Senior Ministers of Public Health, Interior, Economics, Public Works, Transport, Agriculture and Urbanism, as well as representatives of related agencies. Legislative proposals are being drafted to create a unified air pollution control agency.

COLUMBIA

BACKGROUND

Within Colombia, located in the northern part of South America, the Andes Mountains divide into three ranges, permitting relative autonomy for the different regions. It is not a maritime nation, and most of its 20 million inhabitants live in the more temperate highland areas. The major cities in order of size are Bogota, Medellin, Cali, Barranquilla and Cartagena.

Industrial activity is concentrated in these cities, with major chemical plants in Cartagena, Barranquilla, Medellin, Cali and the Bogota Sabana area. A number of cement plants are located throughout the country. Colombia's major oil refinery is located along the Magdalena River at Barrancabermeja.

Much of the power generated in the country is hydroelectric, with the balance produced by thermal power plants. Oil provides most of the fuel for industry.

There is little air pollution control in Colombia and no special legislation or regulations dealing with the problem. Any regulations would be issued by the Department of Public Health.

TRENDS

In 1970, the Department of Public Health began studying the possibility of implementing air pollution regulations. The initial controls are expected to be:

1. Minimum height for a pollutant discharge stack should be 3 meters above any building located within a radius of 50 meters.
2. The stack height could be increased at the discretion of the Public Health Authorities in accordance with plant size and emission level, up to a minimum height of 100 meters for over 100 tons per hour of fuel burned or for 1 ton per hour of sulfur dioxide emissions.

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RELATIONSHIPS AMONG ORGANIZATIONS

The National Institute for Special Health Programs (INPES), a branch of the Ministry of Public Health, is responsible basically for control of air pollution, water contamination, and environmental health. INPES is, up to now, a developing organization, with only limited experience.

Several pilot centers for air pollution work were established at different locations in 1970. Subsequently, plans included the establishment of centers in the following cities, covering all industrial sections of the country: Bogota (6), Cali (4), Medellin (3), Cartagena (2), and Barranquilla (2). Monitoring procedures have been prepared in accordance with methods used by the Panamerican Organization for Health, including the same units of measurement and types of equipment.

For purposes of control, initial measurements are of sulfur dioxide and settleable dust. At this stage, no controls have been applied, except in the case of factories showing visible smoke or of air pollutants evidently harmful to human or animal health.

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date
CO	001	GOV	[✓ A] [✓ B] [✓ C] [✓ D] E F	01 [✓ 02] [✓ 03] 04 [✓ 05]	[✓ 11] 12 13 14 15	[✓ 21] [✓ 22] 23 [✓ 24] 25	31 32 33 34 35	L [✓ M] S	1 [✓ 2] 3	1/71

S T

NAME: National Institute for Special Health Programs
Instituto Nal. para Programas Especiales de Salud

ACRONYM: INPES

See also

ADDRESS:
Avenida Eldorado, Carrera 50
Apdo. Aereo 3495
Bogota, Columbia

Tel: 448510

AFFIL:
Ministerio de Salud Publica
(Ministry of Public Health)

Title	PERSONNEL	Function
Dr.	Enrique Guerrero	Director
	Orlando Baute	Engineer
	Jose M. Lopez	Engineer
	1 Technical Assistant	

AP aims and actions:

Monitoring to determine the AP problem in different cities.

Specific surveys for private industry.

Legislation, setting up regulations.

Information, advice, education and training.

Comments:
Incorporates the former National Institute of Health.

COSTA RICA

The population of Costa Rica is about 1.8 million and expected to double in 20 years. The city of San Jose is growing at a much faster rate than the rest of the country, as is typical of the Latin American capitals. Automobile registrations are increasing at a rate of about 10 percent a year in San Jose, and exhaust emissions from trucks and buses there are considered the chief present source of air pollution.

Responsibility for pollution control is assigned to the Sanitary Engineering Department in the Ministry of Health. Its major concern is improved sewerage, and its activities in air pollution control have consisted chiefly of public education. Equipment to measure air pollution has recently been acquired, however. Public awareness of the problem of exhaust emissions is promoted also by a loosely formed organization of professors at the University of Costa Rica that is seeking to improve air quality in the city of San Jose.

CR	001		A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	1/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Ministry of Health, Department of Sanitary Engineering

ACRONYM:

See also

ADDRESS

Departimento de Ingeneria Sanitaria
Ministerio de Salubridad
San Jose, Costa Rica

Tel

AFFIL

Title	PERSONNEL	Function
Ing.	Lugari, Juan	Director
Dr.	Orlich, Jose Luis	Ministro de Salubridad
Ing.	Serrano, Alfredo	Ingeniero Min. de Transportes

AP aims and actions:

Interdepartmental group which meets at the request of the Minister of Health, aim is to establish controls on exhaust emissions from trucks and buses, especially in the city of San Jose.

Comments:

Data on exhaust emissions will be measured using equipment donated by Pan American Health Bureau, and transmitted to the Transportation Ministry for appropriate action.

CR	002		A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	1/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Committee for the Improvement of San Jose
(Comite pro Mejoramiento de San Jose)

ACRONYM:

See also

ADDRESS

c/o Mrs. Jessie Montejo de Orlich
University of San Jose

Tel 25-04-96

AFFIL

Title	PERSONNEL	Function
Prof.	de Orlich, Jessie	University English Professor
Dr.	Chaverri, Gil	Dean of the University-Science & Letters
Prof.	Azofeifa, Isaac F.	Univ. Prof.
Lic.	Benavides, Enrique	Lawyer
Ing.	Betheau, Jorge	Civil Eng.
Ing.	Montejo, Javier	Civil Eng.

AP aims and actions:

Clean air from automotive emissions in the city of San Jose.

Comments:

CZECHOSLOVAKIA

BACKGROUND

Czechoslovakia is a highly industrialized nation with a high population density of 290 per square mile. While 38 percent of total employment is in industrial manufacturing, 68 percent of all income comes from industry, especially the manufacture of machinery. Industrial enterprises are distributed throughout the country: Prague is the only city of a million, and there are 6 of over 100,000. Many industries are located in river valleys with unfavorable conditions for atmospheric dispersion.

The chief causes of air pollution in Czechoslovakia are emissions of fly ash, dusts, and sulfur dioxide. A major source of these is the widespread use of brown coal, which has a low heating value, high ash content, and high sulfur content. The fly ash from this source has poor electrical properties for electrostatic precipitation. Large power plants can overcome this disadvantage by installing a first stage of mechanical separators of high efficiency, but such equipment is missing from many smaller plants. Dusts also are a problem in the manufacture of steel and nonferrous metals and in the production of cement and inorganic chemicals.

Air polluting enterprises are required to pay an annual tax to the central socialist government, based on a set charge per ton of emissions or the equivalent cost of maintaining and operating equipment that would be adequate to abate the emissions. This tax includes a regional surcharge that may be as much as 100 percent, based on the cleanliness of the local atmosphere. Penalties are added if the enterprise has not carried out control measures specified by the authorities, or if the equipment installed is not properly maintained and operated.

Taxes and penalties on air pollution are distributed 60 percent to the local national committee, which is the organ of government for the district in question, and 40 percent to the Fund for Air Protection. Payments into and out of this fund are administered by the State Technical Air Pollution Control Inspection (STAPCI), under the Ministry of Forestry and Water Economy. The local national committee maintains the tax records, and the funds it receives for this purpose are used for projects to improve living conditions. Under the basic legislation, Law No. 35/1967, STAPCI conducts routine inspections and random spot checks, which were previously carried out by the Hygiene Service under Law No. 20/1966. CS-01

TRENDS

Air pollution problems in Czechoslovakia are closely related to industrial zoning and water problems and are frequently deemed secondary to them in importance. Consideration is being given to new basic legislation that will include provisions for national clean air standards, an alert warning system, and controls on automotive emissions.

RELATIONSHIPS AMONG ORGANIZATIONS

On January 1, 1969, STAPCI was divided into two parallel organizations responsible to the national ministries of the Czech and Slovak Socialist Republics. The chief inspectorate for Czech territory is in Prague (with five regional inspectorates), and for Slovak territory in Bratislava (with three regional inspectorates). In addition to making inspections, STAPCI surpevises the installation of new equipment. In special cases it sets priorities on the delivery of equipment, and it can allot up to 50 percent of the initial cost for the equipment from the Fund for Air Protection. Necessary additions to this fund are made by state subsidies. In extreme situations, STAPCI may recommend and supervise a reduction in plant production, as, for example, in the case of a power plant with inadequate separators in a heavily polluted area. This type of action was also taken in connection with a cement plant near Prague, after a research project sponsored by STAPCI at the Technical University showed that methods are available to bring emissions down to 10 percent of the uncontrolled amounts.

The Ministry of Health and its Chief Hygienist can veto any new project for reasons of public health. This Ministry also sets standards for maximum CS-02 allowable concentrations of pollutants. In 1969, a committee was organized for this purpose under the Ministry's Institute for Occupational Hygiene and Professional Diseases in Prague. Professor J. Tiesinger was appointed Director, and representatives were chosen from the parallel Institute in Bratislava and from the Central Office of the Czechoslovak Chemical Industry, the Medical Faculty of Hygiene at Charles University, and the State Research Institute of Organic Synthesis. CS-03

Research on the effects of air pollution and pollution controls is conducted at the Air Protection Laboratory of the Hydrometeorological Institute. Earlier research in this general area was carried out by various branches of the Czechoslovak Academy of Sciences. Included were studies of gaseous absorption, precipitation, and aerosols at the Institute of Physical Chemistry; studies on the structure of smog at the Institute of Physics of the Atmosphere; on rural pollution effects at the Biological Institute; and on radioactive fallout at the Institute of Nuclear Research. CS-04

CS	001	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME State Technical Air Pollution Control Inspection

ACRONYM STAPCI

See also

ADDRESS
Zitomirska 46
Praha 10, Czechoslovakia

Tel

AFFIL Ministries of Forestry and Water Economy in the Czech Socialist Republic (Prague) and the Slovak Socialist Republic (Bratislava)

Title	PERSONNEL	Function
Dr.	Jiri Kurfurst	Deputy Chief Inspector

AP aims and actions

Inspection and measurement of all plant emissions, routine and random spot checks

Supervision of pollution control devices (separators, scrubbers)

Obtains data for assessment of taxes on air pollution

Sets requirements for new equipment in specific plants and allocates tax support from the "Fund for Air Protection" in part payment for capital costs

Comments

Chief Czech inspectorate at Prague supervises five regional inspectorates; chief Slovak inspectorate at Bratislava supervises three regional inspectorates.

CS	002	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Institute for Hygiene

Ustav Hygieny

ACRONYM

See also

ADDRESS
Praha 10 - Vinohrady
Srobarova 48

Tel

AFFIL

Chief Hygienist,
Ministry of Health

Title	PERSONNEL	Function
Prof. MU Dr.	Karel Symon	Director, Liaison officer for health standards

AP aims and actions

Sets standards for public health

Research in community hygiene

Comments

CS 003 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Institute for Occupational Health and Professional Diseases
Ustav Hygieny Prace a Chorob ■ Povolani

ACRONYM:

See also

ADDRESS
Prana 10 - Vinohrady
Srobarova 48

Tel:

AFFIL
Ministry of Health

Title	PERSONNEL	Function
Prof. MU Dr.	Jaroslav Teisinger	Director

AP aims and actions

Sets standards for industrial exposure

Comments

CS 004 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Hydrometeorological Institute
Hydrometeorologicky Ustav

ACRONYM:

See also

ADDRESS
Prana 5
Holeckova 8

Tel:

AFFIL

Title	PERSONNEL	Function
	J. Zitek	Director

AP aims and actions

Air Protection Laboratory
Meteorological research and measurements
Weather and air quality reports

Comments:

DENMARK

GENERAL AIR POLLUTION BACKGROUND

Geography

The groups of low-lying islands which comprise Denmark are well ventilated by the prevailing westerly winds from the North Sea. As a result of the mild maritime climate, fertile soil and a favorable geographic position for trade, a relatively large proportion of Denmark's population of 5 million is involved in the agricultural and dairy segments of the economy. In the absence of commercial ore deposits, there is no metal smelting, but foundries for shipbuilding and heavy machinery industries provide potential sources of air pollution; the lime, cement and ceramic industries are also well developed. With little coal resources, Denmark depends heavily on imported oil for fuel. Copenhagen (København) is by far the largest city, and most of the industry is located there; other industrial centers are Nakskov (shipbuilding and sugar refining); Ålborg (cement and shipbuilding); Arhus (margarine); Kalundberg, Fredericia, and Skaelskør (oil refining); Odense (shipbuilding); and Nordberg (general engineering).

Political Features

Although there is no real air pollution hazard in Denmark (because of the generally windy climate and absence of large industrial concentrations), assertions that the larger towns must surely have air pollution problems are promoted in articles published by the highly competitive Danish press. Concern about pollution of all kinds has grown in recent years until it now ranks high in the statements and activities of all political groups. Water pollution attracts the most attention, but emphasis is also given to the smell and smoke from road traffic.

The Forureningsråd (Pollution Board) was set up in December 1969 to investigate the existing control scructure for environmental conservation and to make appropriate proposals. Assisted by a number of technical working groups, this organization produces definitive reports, though DK.001

national economic limitations have tended to delay progress. Meanwhile, a number of controls have been recommended, and county authorities (recently reorganized and reduced in number) are preparing air quality conservation plans.

Present Controls

Regulation of pollution has been very slight until the present, though claims of nuisance or damage can be made by private individuals under the "Culpa Rule." Exploitation licenses, obtained in each commune from the building department (Bygnings Direktoratet--exact title varies), are required for all new plants. These licenses include some chimney construction requirements but not emission limits.

The Sognerâd (County Council) may inspect factories for nuisance risk. This organization can also restrict certain industrial activities to particular areas (zoning). The Sundhedskommissionen (Local Health Authorities) have general powers to prohibit industrial activity where there may be a danger to health, but there are no specific limits for smoke or industrial effluent gases in the country. The bigger industries and power stations are attempting to restrict emissions, often with help from the Dansk Kedelforening, which has adapted and published the German VDI guidelines. DK.013 The Fordselsloven (Traffic Code) prohibits excessive noise, smoke, or odors. D.021

Trends

With the interest of all political parties in environmental conservation and with proposals for a new administrative structure awaited from the Forurneningsrâd(Pollution Board), it can be expected DK.001 that a firm conservation policy and definite criteria for air quality will be forthcoming in Denmark during the next year or so. In the absence of severe problems, however, it is difficult to anticipate the nature of these criteria. Coordination with other Nordic countries seems likely, but Denmark's application to join the EEC could influence this tendency. Meanwhile, interim proposals from the Forureningsrâd include the following air pollution controls:

1. Guidelines, for communes, on emissions from municipal incinerators;
2. Limit of 4.5 percent on carbon monoxide emissions at idle for new cars (all imported) and on diesel vehicle smoke.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

The Forureningsråd (Pollution Board) is the most significant body in Denmark's air conservation activities. Consisting of three Ministry representatives under the chairmanship of a county sheriff, the Board is responsible to the Ministry of the Interior, but is largely autonomous in action. DK.001

The Forureningsråd is assisted by a 12-member Tekniske Forureningsudvalg (Technical Committee), which is responsible for the environmental aspects of air, water, soil and noise. The effort is carried forward by Working Groups of technical specialists. These groups concerned with air pollution are studying fuel statistics, health effects, pollutant measurements, home heating, power plants, industrial effluents and process heating, rubbish incineration and traffic emissions. Noise investigations deal with airports, roads, construction work, industry and transportation equipment. DK.002

Through the Forskningens Faellesudvalg (Science Advisory Council), a Committee against Pollution has been created, with membership from the various Forskiningsrad (Research Councils). The Committe is concerned with natural, technical, medical, veterinary and agricultural sciences. DK.003

The ATV - Akademiet for de Tekniske Videnskaber (Danish Academy of Technical Sciences) has been the principal national center for information on environmental conservation. Information on air pollution is provided by the Røgudvalget 62 (Smoke Committee 1962), one of the research committees within the ATV. This group initiated and, in September 1968, published a comprehensive survey of smoke and sulfur dioxide in the five major towns (Copenhagen, Alborg-Nørresundby, Odense, Vejle and Maribo), though the practical work was accomplished on a coordinated basis by the DKF - Dansk DK.004 DK.005 DK.013

Kedelforening (Danish Boiler Owners Association).

The Dansk Kedelforening (DKF) has been for many hears the principal organization for measuring air pollution in Denmark, though the first survey of air pollution tere was conducted by Professor Andreasen (then at Denmark's Tekniske Højskole - Technical University of Denmark) and was published by the ATV in 1949. The DKF has a well-equipped laboratory and test station from which it continues a general urban survey of Copenhagen for the ATV; it also undertakes special surveys, including measurements of effluent gas quality and of efficiency of purifying equipment for Danish industry, whether members of DKF or not. The present role of the DKF in making urban surveys could be affected by proposals for reorganization of the Rorureningsråd. DK.013 DK.032

Dr. Poul Bonnevie, professor of social medicine at the Hygienjnisk Institut, plays an important role in providing information on the health effects of pollution. He is medical advisor to the Ministry of the Interior (which has responsibility for pollution control), to its Sundhedsstyrelsen (Health Board) and, through that, to the Sundhedskommissionen (Local Health Authorities) in each commune. He is also consultant to the Statens Institut for Arbejdshygiejne (State Occupational Hygiene Institute), which advises the Direktoratet for Arbejdstilsyn (Labor Inspectorate) on air quality standards for factories. DK.031 DK.008

Universities are also active in air pollution work. For example, the Pharmacology Institute at Århus is measuring ambient mercury, and the Hygiene Institute at Copenhagen is investigating airborne infections.

Several industrial groups have advisory committees for pollution problems: the Danske Elvaerkers Forening (Danish Power Plants Association), the Asfaltindustriens Oplysningskontor for Vejbygning (Asphalt Industry Association), and the Oliebranchens Faellesrepraesentation (Petroleum Industry Association). Several of the member companies of these associations also have environmental conservation committees (e.g., Dansk Esso). DK.014 DK.017 DK.015 DK.016

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
DK	001	GOV	A B [✓ C] D E F	01 02 03 04 05	11 12 13 14 15	[✓ 21] 22 23 24 25	31 32 33 34 35	L [✓ M] S	[✓ 1] 2 3	9.70	S [✓ 1]

NAME: FORURENINGSRÅD

Pollution Board

ACRONYM:

See also DK.002

ADDRESS: Christiansborg Slotsplads 1,
1218 KØBENHAVN K.

Tel: (01).11.69.00

AFFIL: Indenrigsministeriet
(Min. of the Interior)

Title	PERSONNEL	Function
Chairmn	K.O. Møller	Sheriff of county of Hjørring.
Vice-ch	H.O. Christiansen	Section head, Min. of Commerce.
	V. Rud Nielsen	Section head, Min. of Housing.
	N.V.C. Vermuth	Section head, Min of Agriculture.

AP aims and actions:

To determine what powers for conservation lie in the existing legislation.
To make immediate conservation proposals.
To propose a permanent administrative organisation for conservation.

Comments:

Set up in December 1969.
Wide freedom of action.
The Board draws advice from a Committee of 12 technical experts (DK.002).
Has made some interim proposals; full report expected end 1971.

DK.001 Forureningsråd 9.70

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
DK	002	GOV	A B [✓ C] D E F	01 02 03 04 05	[✓ 11] [✓ 12] [✓ 13] [✓ 14] [✓ 15]	[✓ 21] 22 23 24 25	31 32 33 34 35	[✓ L] M S	[✓ 1] 2 3	9.70	S [✓ 1]

NAME: TEKNISKE FORURENINGSUDVALG

Technical Pollution Committee

ACRONYM:

See also DK.001

ADDRESS: Holbergsgade 14^{3}
1057 KØBENHAVN K.

Tel: 01 .1[illegible]

AFFIL: Indenrigsministeriet
(Min. of the Interior)

Title	PERSONNEL	Function
	12 members (see over)	
	WG's comprise 70+ experts	

AP aims and actions:

To advise the Forureningsråd (DK.001) on all technical aspects of pollution and to assign priorities to research required.
Has four main commissions: for water, soil, air, and noise.
Operates through WG's of technical and scientific experts.

Comments:

DK.002 Tekniske Forureningsudvalg 9.70

DK.00[illegible] Tekniske Forureningsudvalg 9.70

Amtmand	K.O. Møller, Formand	Sherriff of Hjørring County
Professor, dr.med.	G.J. Bonde	Hygiene Institute, Aarhus U.
Professor, dr. med.vet.	S. Dalgaard-Mikkelsen	Royal Verterinary H/S, København
Dr. techn.	Knud Hansen	Dansk Kedelforening
Civilingeniør	P. Harremoes	Royal Technical H/S, København
Professor, dr. techn.	F. Ingerslev	" " " "
Konsulant	J. Graff Nielsen	Ministry of Agriculture
Professor, dr. phil.	Hans Pauly	Mineralogical Institute
Overlæge, dr. med.	E. Uhl	Health Authorities
Stud. scient.	T.E. Hallas	Student
Direktør	C.G. Wolffbrandt	Industrirådet
Dyrlæge	A. Haugaard Hansen	Agricultural Association

DK	00[illegible]	NAT	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	[✓ L] M S	[✓ 1] 2 3	9.70	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: UDVALG VEDRØRENDE FORURENING
Committee Against Pollution

ACRONYM:

See also

ADDRESS: Hørsholm Kongevej [illegible],
[illegible] HØRSHOLM

Tel. [illegible].00

AFFIL: [illegible]
DK: Teknisk Videnskabelige
Forskningsråd

Title	PERSONNEL	Function
	(members as over)	

AP aims and actions:
To consolidate available basic knowledge on AP, to evaluate additional research needs, and to assign priorities.
To act as a centre of coordination for DK (and possibly also for Scandinavia).

Comments:

DK.00[illegible] Udvalg Vedrørende Forurening 9.70

DK.003 Udvalg Vedrørende Forurening 9.70

Members

E. Steemann Nielsen
T. Vincentz Nissen
Jens Jensen-Holm
Erik A. [illegible]
Sv. [illegible]-Mikkelsen
[illegible] Dam Kofoed
Bent Raid Andersen
Niels-Henrik Hansen
Per Søltoft
Niels E. Busch

DK [illegible] T A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME AKADEMIET FOR DE TEKNISKE VIDENSKABER
Academy of Technical Sciences

ACRONYM ATV

See also DK.00[illegible] DK.[illegible]

ADDRESS Rigensgade 11,
[illegible] KØBENHAVN K

Tel [illegible]

AFFIL

Title PERSONNEL Function

Direktør P. Hermann President

AP aims and actions

National Information Centre on [illegible] (inter alia).
[illegible] Hovedudvalget [illegible] DK.00[illegible].
[illegible] in Denmark (work by [illegible] DK.00[illegible]).

Comments:

ATV coordinates [illegible] autonomous institutions involved in a wide range of research.
The Hovedudvalg [illegible] (DK.00[illegible]) [illegible] of 14 committees.

DK.00[illegible] Akademiet for de Tekniske Videnskaber 9.7[illegible]

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
DK	005	NAT	A B́ C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24́ 25	31 32 33 34 35	Ĺ M S	1́ 2 3	9.70	5́ 1́

NAME: RØGUDVALGET [illegible]
Smoke Committee (Den)

ACRONYM:

See also DK.004 DK.013

ADDRESS: Sankt Peders Vej 8
2900 HELLERUP

Tel: [illegible]

AFFIL: ATV (DK.004

Title	PERSONNEL	Function
Dr.Tech	A. K. Raz	Chairman
Ing.	Poul Bennk	Secretary

(See over for full membership

AP aims and actions

[illegible] committee for ATV (DK.004): collates all available [illegible] information: keeps up to date with technical development.

[illegible] work by [illegible] (DK.013), and reported results.

Comments

Cooperates closely with Kedelforeningen (DK.013) (same address).

DK.005 Røgudvalget [illegible] 9.70

DK.005 Røgudvalget ATV 9.70

Chairman	A. K. Raz	dr. techn.
	[illegible] M. Andreasen	professor, dr. techn.
	[illegible]	professor, dr. med.
	[illegible]	driftsbestyrer, dr. techn.
	[illegible] Carlsen	direktør, civilingeniør.
	[illegible] K. G[illegible]sen	professor, dr. phil.
	Knud Hansen	dr. techn.
	[illegible]	direktør, civilingeniør
	[illegible]-Pedersen	underdirektør, civilingeniør
	K. [illegible] Jensen	professor, dr. techn.
	Jørgen Lauritsen	civilingeniør
	P. [illegible] Petersen	overingeniør, cand, polyt.
	Per [illegible]	professor, dr. techn.
	[illegible]	direktør, civilingeniør
	[illegible]	underdirektør, civilingeniør
Secretary	Poul Bennk	afdelingsingeniør, cand. polyt.

DK [illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.79 [illegible] 7

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: STATENS INSTITUT FOR ARBEJDSHYGIEJNE
State Institute for Occupational Hygiene

ACRONYM

See also DK.005 DK.031

ADDRESS: Baunegårdsvej 73
2900 HELLERUP

Tel: [illegible]

AFFIL: [illegible]

PERSONNEL

Title	Function
Prof.dr P. Bonnevie	Consultant for AI

AP aims and actions
[illegible] occupational [illegible]

Comments

[illegible] hygiejne

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible]

ACRONYM [illegible]

See also

ADDRESS: [illegible]

Tel:

AFFIL:

PERSONNEL

Title	Function
[illegible]	

AP aims and actions
[illegible] in Denmark, Faroes [illegible]

Comments

DK.[illegible] [illegible]

DK 01 ASN A B/ C D E F/ 01 02 03 04 05 11 12 13 14 15/ 21 22 23 24 25 31 32 33 34 35 L/ M S 1 2/ 3 9.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME INDUSTRIRÅDET - Luftforureningsudvalg
Industry Association, AP Committee

ACRONYM
See also

ADDRESS H.C. Andersens Bvd 18
1553 KØBENHAVN K.

Tel (01) 15.22.33
AFFIL Most Danish industries

Title	PERSONNEL	Function
Direktør	Hill Madsen	chairman of Industrirådet
Direktør	P. Skjoldborg	chairman of AP Cttee
Civ.Ing	Fl. Clausen	secretaries
Cand.Jur	Johs Reeckmann	

(members of AP Cttee listed over)

AP aims and actions
Coordinates available information on industrial AP matters, mainly in economics, and presents views to Government.

Comments

D.01 Industrirådet - Luftforureningsudvalg 9.70

D.010 Industrirådet 9.70

Members of AP committee

Direktør Poul Skjoldborg	chairman
Overingeniør V. Bryndum	
Fabriksbestyrer Jørgen Haals	
Direktør F. E. Johannesen	
Overingeniør N. P. Langkilde	
Afdelingsleder, cand. agro. P. Gregers Petersen	
Overingeniør Jens Hilsbro	
Civilingeniør Fl. Estoft Knudsen	

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DANSK KEDELFORENING

Danish Boiler Owners Association

ACRONYM [illegible]

See also DK.00[illegible]

ADDRESS [illegible]

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.Tech	Knud Hansen	director
Ing.	Leif Hansen	i/c AP laborato[illegible]
Mask.Mest.	P. E. Pedersen	i/c AP measure[illegible]

+ assistance of 7. (in aggregate)

AP aims and actions

[illegible] efficiency and of [illegible] mobile stations [illegible] (DK.005): [illegible]

Comments

Established 1916; [illegible] 19[illegible].

Income from Danmarks [illegible] Videnskabelige Forening [illegible] (D. Tech. Science [illegible] for work of national [illegible] and from commissioned [illegible] secondarily from members [illegible] Forening).

Responsibility for nat[illegible] may be taken over by new [illegible] following report of [illegible]

[illegible] & [illegible]

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM

See also

ADDRESS [illegible]

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]Ing	H. H. Nielsen	chairman [illegible]

AP aims and actions

[illegible] information and opinions on AP for members. AP committee set up [illegible] measurement of AP levels [illegible] around power stations to define situation.

Comments

DK.004 Danske Elværkers Forening

DK 015 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME OLIEBRANCHENS FAELLESREPRAESENTATION
Petroleum Industry Association

ACRONYM OFR
See also

ADDRESS Fredericiagade 1[illegible]
1310 KØBENHAVEN K

Tel (01) 15.95.06

AFFIL All major oil co's in DK.

Title	PERSONNEL	Function
Civ.Econ	Knud Petersen	director
Civ.Ing	J. Riisbro	tech asst

AP aims and actions
To coordinate oil industry opinion in discussions with government, etc.
[illegible] of measurements by DKF (DK.01) in København.

Comments

DK.015 Oliebranchens Faellesrepraesentation 9.70

T[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.[illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DANSK ESSO'S KOMITEEN FOR MILJØVAERN
Danish Esso's [illegible] Committee

ACRONYM
See also

ADDRESS [illegible] Plads [illegible],
KØBENHAVN K.

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
Director	F. A. Lind	Chairman
Civ. Ing	A. Meldgaard	Secretary

5 members from principal depts.

AP aims and actions
To identify and control all potential pollution sources in [illegible] activities, and to maintain contact with the [illegible] in AP opinion and technology.

Comments

DK.0[illegible] Dansk Esso's Komiteen for Miljøvaern 9.[illegible]

DK 017 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.69

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ASPALTINDUSTRIENS OPLYSNINGSKONTOR FOR VEJBYGNING
Asphalt Industry Association

ACRONYM AOV

See also

ADDRESS Grundvigs Vej 7,
KØBENHAVN V.

Tel JE (01) 551[illegible]

AFFIL

Title	PERSONNEL	Function
Civ. Ing	Herman Hansen	Director

AP aims and actions

[illegible] surveys at asphalt plants and test programme of various filters. Work by D. Kedelforening (DK.01[illegible]).

Comments

AP Group set up in 19[illegible].

DK.017 Asfaltindustriens Oplysningskontor for Vejbygning

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status D

NAME DANMARKS TH. [illegible] Aerodynamisk Laboratorium
[illegible] Denmark, [illegible] Aerodynamic Lab.

ACRONYM

See also

ADDRESS [illegible],
[illegible]

Tel [illegible]

AFFIL

Title	PERSONNEL	Function

AP aims and actions

Calculation of chimney heights and studies of smoke dispersion.

Comments

DK.0[illegible] Danmarks TH. [illegible] Aerodynamisk Laboratorium

DK 020 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DANMARKS TH, Lab. for Opvarmning og Ventilation
TH of Denmark, Heating and Ventilation Lab.

ACRONYM DtH
See also

ADDRESS Lundtoftevej 100,
2800 LYNGBY.

Tel (01) 88.[illegible]
AFFIL

Title PERSONNEL Function

AP aims and actions
Investigations into oil-firing techniques.
[illegible] in heated spaces.
[illegible] on chimneys.

Comments:

DK.0[illegible] Danmarks TH, Lab. for Opvarmning og Ventilation 9.

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DANMARKS TH, Motorlaboratoriet
TH of Denmark, Engine Lab.

ACRONYM [illegible]
See also

ADDRESS Lundtoftevej 100,
2800 LYNGBY.

Tel [illegible]
AFFIL

Title PERSONNEL Function

AP aims and actions:
Studies of vehicle emissions.

Comments:

DK.02[illegible] Danmarks TH, Motorlaboratoriet 9.70

DK 031 ONE A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.69 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Prof. Dr. Med. POUL BONNEVIE

ACRONYM:

See also DK.008

ADDRESS:
Hygiejnisk Institut,
Københavns Universitet,
2100 KØBENHAVN Ø

Tel: TR (01) 60[illegible]

AFFIL: Undervisningsministeriet
(Min. of Education

Title	PERSONNEL	Function
		prof. at Inst.
	+ 2 asst. profs.	
	+ 2 lecturers.	

AP aims and actions
Professor of Hygiene and Social Medicine.
Adviser in medical hygiene to Sundhedsstyrelsen (Health Board).
Medical adviser on AP effects to Min. of Interior.
Consultant to Arbejdshygiejnisk Institut (Occupational Hygiene Inst. (DK.008).

Comments

DK.031 Prof. Poul Bonnevie

DK 042 ONE A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Prof. Dr. [illegible] A. [illegible] M. ANDREASEN

ACRONYM

See also

ADDRESS:

Tel

AFFIL:

Title	PERSONNEL	Function

AP aims and actions:
Undertook 1969 AP survey for [illegible] (DK.004).

Comments
[illegible]

DK.042 Prof. Andreasen

DK 034 SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.[illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: DANMARKS NATURFREDNINGSFORENING
Nature Conservation Association of Denmark

ACRONYM:
See also

ADDRESS: Sølvgade 26,
1307 KØBENHAVN K

Tel:
AFFIL:

Title	PERSONNEL	Function
Mr.	W. Horsten	Secretary

AP aims and actions:
Concern for environmental conservation of all kinds.

Comments:

DK.034 Danmarks Naturfredningsforening

DK [illegible] SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: "NOAH"

ACRONYM:
See also

ADDRESS: [illegible] Strøget 2[illegible],
[illegible] KØBENHAVN

Tel:
AFFIL:

Title	PERSONNEL	Function
Mr.	Nils H[illegible]	[illegible]

AP aims and actions:
To identify threats to the environment and to campaign [illegible]
[illegible] conservation.

Comments:
[illegible]

DK.0[illegible] "NOAH"

DK 041 INF A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.76 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: "INGENIØRENS UGEBLAD"
"The Engineer's Weekly"

ACRONYM:
See also

ADDRESS: Skelbaekgade 4,
1717 KØBENHAVN V.

Tel: (01) 21.68.01

AFFIL: Danish Civil Engineer's Assn.
(Ingeniørhuset, Vester
Farimagsgade 31, København V.

Title	PERSONNEL	Function
Mr.	T. Morsing	editor

AP aims and actions

Carries many of the semi-scientific articles on AP published in DK, including some of the work of the DKF. (DK.01)

Comments

Journal for civil engineers.

DK.041 "Ingeniørens Ugeblad"

DK 042 INF A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: "INGENIØR- OG BYGNINGSVAESEN"
"Engineering and Building"

ACRONYM:
See also

ADDRESS: [illegible] Strandgade [illegible],
[illegible] KØBENHAVN K.

Tel: (01) [illegible]

AFFIL:

Title	PERSONNEL	Function
Chief-Editor	A. Bro Rasmussen	

AP aims and actions

Carries many of the semi-scientific articles on AP published in DK, particularly those dealing with the technical and practical aspects such as details of installations in factories, sewage systems, filters, etc.

Comments

Journal for applied engineering. Technical questions are taken care of by Mr. Bro Rasmussen himself.

DK.042 "Ingeniør- og Bygningsvaesen"

ECUADOR

Ecuador is a mountainous country with a population of 6.5 million. Guayaquil, the chief port, has 750,000 inhabitants, a third of the urban population. Another 500,000 live in Quito, the capital city. Air pollution is not a major concern, but the government is considering industrial zoning to minimize its effects. Public water supply and waste disposal are, however, serious problems. A new Public Health Code (February 1971) provides that no emissions into water or air are to be allowed without treatment to remove hazards to health. Standards for the implementation of this legislation are to be established by the Ministry of Health.

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EL SALVADOR

Air pollution controls for the country as a whole are a nominal
function of the Ministry of Health, through its Division of Environ-
mental pollution Control (Saneamiento Ambiental). This agency is just ES-01
now getting organized to conduct the necessary surveys and to issue
the regulations required to establish controls. This division works
directly with its municipal counterpart of the same name in the
capital city of San Salvador. The control of motor vehicles for any ES-02
purpose is a function of the Board of Public Transportation and its ES-03
Military Director under the Ministry of Economy. Plans for the
training of students in this field are contemplated by the University
of El Salvador. ES-04

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ES 001 Gov [✓ A] [✓ B] [✓ C] [✓ D] E F [✓ 01] 02 [✓ 03] [✓ 04] 06 [✓ 11] 12 [✓ 13] [✓ 14] 15 21 [✓ 22] [✓ 23] [✓ 24] 25 [✓ 31] [✓ 32] 33 34 [✓ 35] L [✓ M] S [✓ 1] 2 3 1/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Division of Environmental Pollution Control
Division de Saneamiento Ambiental

ACRONYM
See also N.005

ADDRESS
Division de Saneamiento Ambiental
Direccion General de Sanidad S. Salv.
El Salvador
Tel 21-7550

AFFIL
Ministry of Health

Title	PERSONNEL	Function
Ing.	Rafael I. Pacheco	Director
Ing.	Lotario Bayardo Gomez	Jefe de Investigacion y Control
	Field Assistants	

AP aims and actions
Research required for environmental protection.
To issue regulations for pollution control.
To enforce said regulations.

Comments
Program now being organized.

ES 002 Mun A B C [✓ D] [✓ E] F [✓ 01] 02 [✓ 03] [✓ 04] 05 [✓ 11] 12 [✓ 13] [✓ 14] 15 [✓ 21] [✓ 22] [✓ 23] 24 25 [✓ 31] [✓ 32] 33 34 [✓ 35] [✓ L] M S [✓ 1] 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Department of Environmental Pollution Control
Departamento de Saneamiento Ambiental

ACRONYM
See also N. 001

ADDRESS
Departamento de Saneamiento Ambiental
Alcaldía Municipal, San Salvador
El Salvador
Tel 21-7900

AFFIL
City hall

Title	PERSONNEL	Function
Ing.	Ernesto R. Smith	Director
	3 Technical Assistants	
	3 Secretaries	
	Field Assistants (Various)	

AP aims and actions
To maintain environmental control in the capital city.
To assist all municipalities of the country in same control.
To enforce stablished regulations conduct specific surveys/sampling.

Comments
Works in connection with Division de Saneamiento Ambiental of the Ministry of Health.

ES 003 Gov A 3 C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1/71 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME General Board of Public Transportation

Direccion General de Transportes

ACRONYM

See also

ADDRESS
Dirección General de Transportes
Ministerio de Economía, San Salvador
El Salvador
Tel. 21-7223

AFFIL

Ministry of Economy

Title	PERSONNEL	Function
CPT	Mauricio Vives Casalla	Director
	2 Assistants	

AP aims and actions

To control public transportation quality and safety.

To authorize the circulation of vehicles and to inspect their states and conditions, including any factors related to engine condition, emissions, or fuel quality.

Comments

Military Director has the last word in anything related to public transportation.

ES [illegible] Acd A B C D E F [illegible] S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Department of Chemical and Hydraulic Engineering

Departamentos de Ingeniería Química e Hidraulica

ACRONYM

See also

ADDRESS
Universidad de El Salvador
Facultad de Ingeniería
Depto. de Ing. Química
Tel. [illegible]

AFFIL

University of El Salvador

Title	PERSONNEL	Function
	E. Badia	Head of the Department
	6 Students	

AP aims and actions

[illegible] research on pollution [illegible] regulating water pollution [illegible]

Projects planned include [illegible] studies on air pollution controls.

Comments

ES 005 ASN A B C D E ~~F~~ ~~01~~ 02 ~~03~~ 04 05 ~~11~~ 12 13 ~~14~~ 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S 1 2 ~~3~~ 1/71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Friends of the Land

Amigos de la Tierra

ACRONYM

See also

ADDRESS

Amigos de la Tierra
San Salvador, El Salvador

Tel. 21-5889

Attn:

Title	PERSONNEL	Function
Ing.	Alberto Helleburg	President
Dr.	Roberto Celis	Secretary
	J. Antonio Jacobo	Treasurer

AP aims and actions

To practice and promote all kinds of land conservation procedures.

To be alert to anything that could [illegible] [illegible] and wild life.

Comments

Very influential pressure group. It appears that they will become interested in air pollution in the near future.

FINLAND

(Suomi)

GENERAL AIR POLLUTION BACKGROUND

Geography

Finland is a land of forests, swamps and lakes, stretching from the Baltic northwards into the Arctic. Most of its population of 4.5 million are concentrated in the southern part of the country; the remainder are widely scattered. Helsinki (Helsingfors*) is the capital and has a population of about one-half million. The only other towns with a population of more than 100,000 are Turku (Abo*) and Tampere (Tammerfors*).

Forest land accounts for 70 percent of the country's area; and paper, pulp and sawn timber constitute 55 percent of exports. Despite the limited area suitable for agriculture (8 percent), dairy products are important. Mineral resources are few, though a variety of special metals is produced, mostly in the east near Outokumpu; included are copper, zinc, cobalt, titanium, and the lanthanides. There is neither indigenous coal nor oil, but hydroelectric resources provide for 13 percent of the total energy demand. Heavy industry comprises wood pulp machinery manufacture and icebreaker shipbuilding.

As a result of its geography and relatively flat topography, Finland is well ventilated by nature. Even in the more populous southern part of the country, air pollution is not a serious problem. Vehicle emissions are seen as the most important source of pollutants, especially in Helsinki; the influence of industry and home heating is of minor importance.

Political Features

The republic of Finland is divided into 12 provinces and subdivided again into communes, but political control is centralized. Though conservation problems receive minor political emphasis, they remain under surveillance.

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*Past Swedish influence is reflected in these alternative names.

Present Controls

At present there are no real limiting controls on general air pollution in Finland. All regulations are qualitative, except for a limit on smoke emissions from diesel vehicles.

Trends

Since vehicle emissions are regarded as potentially significant for some urban areas, future activities are expected to be directed toward their control.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

The main political group involved in air pollution control in Finland is Ympäristönsuojelun Neuvottelukunta (The Finnish Council for Environmental Conservation). It was set up in 1970 by the State Council Office as a permanent body to develop policies for all aspects of environmental conservation. SF.001

The Ilmansuojelun ja Meluntorjunnan Neuvottelukunta (Finnish Council for Air Conservation and Noise Abatement), created by the Ministry of the Interior in 1966, is responsible for informing the government about the air quality situation in Finland, with particular regard to the Helsinki area. It also coordinates the activities of other Finnish groups active in this work, as well as maintaining contact with international developments. SF.002

The Työterveyslaitos (Institute of Occupational Hygiene) undertakes research work in this field. Through a common director/chairman, it maintains close ties with the Ilmansuojelun. SF.003 SF.002

The Lääkintöhallitus (State Medical Department) is preparing air pollution standards for Finland, based on research work carried out by the Työterveyslaitos. SF.004 SF.003

SF	001	GOV	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	3.71	S J
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: **YMPÄRISTÖNSUOJELUN NEUVOTTELUKUNTA**
The Finnish Council for Environmental Conservation

ACRONYM:
See also

ADDRESS: Aleksanterinkatu 3D,
00170 HELSINKI 17.

Tel 18 11

AFFIL State Council Office.

Title	PERSONNEL	Function
Mr.	Raimo Pekkanen	chairman
Mr.	Väinö Mäkinen	asst. chairman
Mr.	Ilppo Kangas	general secretary
	+ 23 members (listed over)	

AP aims and actions:
To develop policies for the protection, conservation and management of nature, wildlife and human surroundings, including soil, water and air.

Comments
Set up in Dec.1970 as permanent body

SF.001 Ympäristönsuojelun Neuvottelukunta 3. X

SF.001 Ympäristönsuojelun Neuvottelukunta

Mr. Raimo Pekkanen Chairman
Mr. Väinö Mäkinen Vice Chairman
Prof. Kauko Sipponen
Prof. Reino Kalliola
Mr. Claus Ivars
Mr. Ilmo Jaatinen
Mr. Ilkka Huuhtanen
Mr. Mikko Vähä-Piikkiö
Mr. Jukka Matinvesi
Mr. Eero-Pekka Paavolainen
Mr. Veikko Kannikas
Dr. Olavi Niitamo
Mr. Esko Ala-Ketola
Mr. Sigurd Slätis
Dr. Folke Koroleff
Mr. Yrjö Halla
Mr. Rabbe Lauren
Dr. Antti Kulmala
Dr. Pekka Nuorteva

Mr. Heikki Annanpalo
Mr. Jaakko Piironen
Mr. Ilmo Kolamo
Prof. Jeddy Hasan
Prof. Pekka Kilkki
Dr. Martti Markkula

Mr. Ilppo Kangas General Secretary

SF	002	NAT	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	√ M S	√ 2 3	3.71	S I
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: ILMANSUOJELUN JA MELUNTORJUNNAN NEUVOTTELUKUNTA

The Finnish Council for Air Conservation and Noise Abatement

ACRONYM:

See also SF.005

ADDRESS [illegible]inkatu 1,
[illegible] HELSINKI 17.

Tel. [illegible]

AFFIL. Ministry of the Interior.

Title	PERSONNEL	Function
Prof.	Matti Karvonen	Chairman
	+ 13 members (list enclosed)	

AP aims and actions

Advises authorities in air and noise pollution matters, and to propose control regulations.
Develops cooperation among organizations and individuals concerned. To propose research and training programmes.
Maintains contacts with international [illegible] and [illegible] organizations.

Comments

Set up in [illegible]
[illegible]
[illegible]

SF.00[illegible] Ilmansuojelun ja Meluntorjunnan Neuvottelukunta

SF.00[illegible] Ilmansuojelun ja Meluntorjunnan Neuvottelukunta

Prof. Matti Karvonen Chairman
Mr. Mikko Mansikka
Mr. Unto Koponen
Mr. Risto Aurola
Prof. Tuomas Tuomola
Dr. Antti Kulmala
Mr. Erkki Irjala
Judge Eero Laurila
Mr. Sten Pinno
Dr. Jorl Larinkari
Mr. Enzio Malmi
Prof. Veino Kalliola
Mr. Börje Jasasto
Mr. Lasse Seppovaara

SF 007 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S X 2 3 [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME LÄÄKINTÖHALLITUS
(State Health Department)

ACRONYM

See also

ADDRESS Siltasaarenkatu 18,
[illegible] HELSINKI [illegible].

Tel [illegible]

AFFIL [illegible]

Title PERSONNEL Function

Prof. [illegible] [illegible]

AP aims and actions

[illegible]

Comments

SF.007 [illegible]

SF 008 NAT A B C D E F 01 02 03 04 11 12 13 14 15 23 24 25 [illegible] M [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]
[illegible]

ACRONYM

ADDRESS [illegible],
[illegible].

Tel [illegible]

AFFIL [illegible]
[illegible].

Title PERSONNEL Function

Prof. [illegible]
Dr. [illegible]

AP aims and actions

Investigation of the AP situation in [illegible].

Comments

[illegible]

SF.008 [illegible]

FRANCE

GENERAL AIR POLLUTION BACKGROUND

Geography

France, the largest country in West Europe, ranges in topography and climate from the flat maritime north and west, through the mountainous center and east and far southwest, to the dry Mediterranean south. The country is populated at a relatively low density for Europe as a disproportionately large part of the 50 million population is concentrated in the Paris region (estimated at 6 to 7 million, [illegible] 2.6 million is urban Paris). Other large towns are: Marseille (1.[illegible] million), Lyon (1 million), Toulouse (one-half million), Bordeaux, Lille, Strasbourg, St. Étienne and Le Havre (0.2 to 0.3 million).

The country is well-watered and fertile, and agriculture and forestry play an important part in the economy. Mineral resources include important iron and coal deposits in the northeast (Metz, Lille), with lesser fields in the east and center (St. Etienne, Lyon). Bauxite is worked in the southeast (Département of the Var) but the aluminum is smelted in the Maurienne (Alpes) and at Lacq (Pyrenées Atlantiques), where electric power is more abundant from hydroelectric and natural gas resources. There is some indigenous crude oil in Alsace and near Bordeaux, but this is overshadowed by the gas field at Lacq, which is enormous though very sulfurous.

Besides their metallurgical industry, Lille, Nancy and Lyon have significant textile manufacture. Important oil refineries are located at Dunkerque (Dunkirk), in the Marseille area, in the Seine valley near Rouen, and near Bordeaux. Both Bordeaux and Rouen are important [illegible] and also include some metallurgical works and a growing chemical industry. Nantes and Le Havre are shipbuilding ports. The Paris region is the location of a very wide variety of industry, including most of the [illegible]

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manufacturing; the space-heating demand of the large population of this area also represents an important air pollution source (see: "Zones de Protection" below).

Transport facilities are well developed, especially the canals and rivers and the railways (which are largely electrified).

Hydroelectric power generation provides about one-half of the electricity demand; coal and oil share the rest about equally, but future expansion is likely to be oil-fired. There is a small amount of nuclear power generation. Most thermal power plants are located around the large towns: Électricité de France, the national power F.062
generating organization, has a policy of dispersion from tall stacks.

Political Features

Interest in controlling air pollution has been a feature of French public and political life for many years. Limits on the sulfur content of fuels for use in certain parts of Paris were among the first in Europe, as were regulations on vehicle crankcase emissions.

Numerous inter-locking organizations and groups responsible for the many aspects of air pollution are coordinating available information and research studies. This coordination and discussions of the proper framework for action are leading to the formulation of practical policies.

The French government supports the philosophy of pan-European regulations for atmospheric pollution problems and has adopted the vehicle
emissions standards put forward by the Economic Commission for Europe. A X.003
Minister for the Environment has been nominated, along with Interministerial F.001
and High Committees for the Environment. F.002

The French communications media produce frequent articles on environmental conservation, especially on water pollution, but there are apparently no citizens' groups pressing for action against air pollution.

Present Controls

National

Apart from provisions regarding good neighborliness in the Code Civil, the most long-standing regulations having relevance to the prevention of air pollution are contained in the Law of December 19, 1917, regarding the classification of dangerous or unhealthy industries, subsequently amended on April 1, 1964. A general law covering the emission of pollutants and odors from industrial sources, private heating appliances and vehicles was promulgated on August 2, 1961. The principal requirements of this legislation are given in Appendix A.

These basic Laws (Lois-cadres), published in the Journal Officiel de la République Francaise, have gained practical effect by the introduction of regulatory decrees (Décrets) and orders (Arretés). The most significant of these, an Arrete dated August 11, 1964, established two "Zones de Protection Spéciale" in Paris. Between them, these two Zones include most of central Paris. The Decree contains regulations controlling the operation of heating plant, defines the quality of permitted fuels, and sets out emission limits (see Summary in Appendix C). It may be noted that limits on sulfur dioxide emissions are defined in terms of the thermal output of the furnace rather than as a direct limitation on the sulfur content of the fuel, but by specifying permitted fuel types for various applications (and since the maximum sulfur contents of commercial fuels are defined by Arrêtés of 1967), an effective maximum of 2 percent has been introduced for both zones, a lower level of 0.7 percent maximum being similarly effected for small and medium installations, especially in Zone I.

The pollution levels that must obtain before any area is designated as a zone worthy of special protection are not defined in the various decrees. However, Dr. Coin of the Laboratoire d'Hygiène de la Ville de Paris (Paris Municipal Hygiene Laboratory) has quoted a value for sulfur dioxide of 750 $\mu g/m^3$ occurring in 8 days in six consecutive months, or a dust value of 350 $\mu g/m^3$ combined with high sulfur dioxide levels.

The regulations also require (or for some areas recommend) that large installations should burn low-sulfur fuels during conditions of poor atmospheric dispersion, or all the time in heavily polluted areas. Large industrial installations may also be required to maintain measurements of emissions and ambient pollutant levels (smoke and sulfur dioxide).

A Circular Instruction of November 24, 1970, defines the method for calculating, on the basis of fuel sulfur content, the height of new-construction chimneys for heating installations exceeding 60 th/hr. This method provides a common basis for these calculations throughout France in the application of the law of December 19, 1917 for the "etablissement classes" and of the Décret of June 14, 1969, regarding domestic heating.

As regards emissions from vehicles, Arretés of November 15, 1963, November 15, 1965, and January 20, 1967, define permitted smoke emission limits (optical opacity) for private cars and commercial vehicles.

An Arreté of June 30, 1970, provides for the introduction of full cyclic dynamometer testing of gasoline-engine vehicles according to the technical recommendations of the Economic Commission for Europe. X.003
The limits on emissions of carbon monoxide and of hydrocarbons, quoted in grams per test and varying with vehicle weight are applicable to the type-testing of vehicles from October 1, 1971, and to all newly registered vehicles from September 1, 1972. Other vehicles are required to meet a limit of 4.5 percent for emissions of carbon monoxide at idle. Testing of vehicles, by type or series-production, is carried out at an agreed laboratory (UTAC). F.057
The Arreté, which in part replaces Arretés of 1964 and 1969, also provides for testing and limits on crankcase emissions.

Local

Apart from the Paris "Zones" which derive from national regulations, there are no special local regulations affecting air quality. However, the Prefects of the individual Départements have considerable discretion in the application of the national Laws and Decrees, especially affecting the licensing of the Établissements Classés (classified industries).

Administration

The application of the regulations for air conservation are the responsibility of the Préfet (Prefect - Chief officer) of the individual

Départements - of which there are about 90. Applications for industrial operating licenses are directed to the Prefect, who has considerable local discretion. He takes advice from appropriate expert sources and from model regulations.

For the large installations (>1000 th/hr), the Organisme des Établissements Classés (Organization for the Classified Industries) F.006 advises on the technical aspects of pollution control, but the views of the Ministerie de l'Agriculture are invoked if appropriate (e.g., for aluminum plants), as is the expertise on hygiene of the Ministérie des Affaires Sociales. The last is also responsible for advice on smaller installations and domestic heating, but the Ministérie de l'Equipement et du Logement (Minister of Housing) often gives technical advice in these cases.

The inspectors of the Organisme des Établissements Classés - a few in each region - visit installations from time to time, examining the records of emissions or ambient air quality increasingly required to be maintained by the works itself, for conformity with the operating license.

Vehicle pollution matters are the responsibility of the Ministerie des Transports assisted as appropriate by local police and municipal laboratories etc.

Paris is unique in having two Préfectures: a municipal authority, which in air pollution matters takes responsibility for domestic heating in urban Paris; and the Préfecture de Police, responsible for automotive pollution and for industrial emissions, and covering the whole Paris region.

Trends

Current Interests

With the establishment of a Minister and a High Committee for the F.001
Environment, a national plan for conservation is in hand. The plan is F.002
derived from the "Programme of 100 Measures," which was prepared by the

working group DATAR (Delegation a l'Amenagement du Territoire et a l'Action Regionale) on the basis of the Report of Louis Armand (see F.053). The Minister is embarking on a legislative program which is designed to consolidate and revise much of the existing provisions and to introduce others as necessary, especially against noise. The program takes account of the work carried out in other countries and by international groups, and covers all forms of ambient pollution, the urban and rural environments, as well as the problems of education, public information, and the legislative aspects.

A proposal is in process for the establishment of a new town, Vaudreuil, to have a population of 100 to 120 thousand, to be located some 15 kilometers above Rouen in the Seine Valley, where problems will supposedly be "designed out" from the beginning.

Foreseen Controls/Timing

Consideration is being given to extending the Paris "Zones de Protection Speciales" to include the principal suburbs. In addition, other French towns may adopt this limitation on emissions, but probably not in the near future. As mentioned above, the ECE limits for vehicle emissions were adopted with full effect from September 1972.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

Monsieur Robert Poujade was nominated Ministre de l'Environnement (Minister for the Environment) in February 1971 and, by Décret 71-94, was given wide powers for the protection of the environment. With the assistance of a small cabinet, he is able to call upon the services of other departments in the development of conservation policies and regulations, for which he also has coordinating responsibility. F.001

The Minister is assisted in this work by a new body, the Haut Comité de l'Environnement (High Committee for the Environment) whose constitution and activities were defined in Decret 70-672, of July 30, 1970, and Decret 71-92, of February 2, 1971. The Committee is under the presidency of the Minister of the Environment and comprises representatives of other ministries F.002

and nine conservation experts, with powers to co-opt other experts as necessary. These 2 groups have taken over responsibilities previously held by 14 other government departments. A primary task will be the revision of and strengthening of existing legislation (notably that affecting the classified industries in the context of air pollution), but much of the emphasis is placed on water conservation.

The Commission Interministerielle, previously active in conservation work, has been converted to a Comité Interministerielle; this group also comes under the aegis of the Minister for the Environment, but is required to concentrate on problems of water pollution. Other organizations deal with wild life, information and public relations.

The national policy on health is coordinated by the Conseil Superiéure F.004
de l'Hygiène Publique (High Council for Public Hygiene) which also comprises
qualified representatives of interested ministries.

The principal State organization concerned with research into the
hygiene and medical aspects of air pollution is the Institut National de
la Sante et de la Recherche Médicale (INSERM) and its associated laboratories. F.021
These groups study epidemiology and biological effects of pollutants on
animals and other organisms. The Vigoulet-Auzil (Toulouse) laboratory of
INSERM maintains close liaison with the laboratory of the administration of
the Pyrenées Atlantiques at Lagor. This laboratory in turn maintains close F.036
ties with the Institut National de Recherches Agronomiques (INRA - National F.022
Institute for Agronomic Research) through the phytopharmacy laboratory
at Montardon, where the effects of pollutants (SO_2, NO_x, HF) on vegetation
are studied. Similar studies are conducted by CERAFER at Grenoble. Other F.029
biological work is carried out by CERCHAR and at the University medical F.061
faculties at Paris, Rouen, Bordeaux, Caen and Besancon. F.142

F.150

F.156

F.157

F.148

A very significant coordinating State organization is the Délégation

Générale à la Recherche Scientifique et Technique (DGRST - General F.003
Delegation for Scientific and Technical Research). Set up in 1969,
this body is responsible for coordinating and subsidizing research
programs involving a wide variety of activities including air pollution,
at universities and private laboratories throughout France.

The Centre National de la Recherche Scientifique (CNRS - National F.027
Centre for Scientific Research) also has a coordinating responsibility
but in air pollution its principal function is in the coordination and
dissemination of scientific documentation, and this includes the
publication of monthly abstracts of the literature.

The work of an important group of industrial and professional
associations is coordinated by a Comité de Coordination under the F.050
chairmanship of Professor Henri Moureu. This Committee was established
in 1965 for the better orientation of the respective activities of APPA, F.051
CAPA and CATPA. It thus represents a concensus of opinion of hygienists, F.054
of all the various industries concerned, and of other experts. F.053

APPI (l'Association pour la Prévention de la Pollution Atmosphérique - F.051
Association for the Prevention of Air Pollution) with Professor Moureu
as President, was registerd in 1958 and officially recognized as being
"d'utilité publique" (of public value) in 1962. In meeting its objective
of informing local opinion, it has set up and coordinates regional
committees, advises local authorities, and publishes the quarterly
"Pollution Atmosphérique." In this way it builds up a picture of local
air pollution problems and also provides a public communications medium
for the work of CATPA, CAPA and CITEPA. The membership of APPA and the F.053
officers of its regional committees are given in Appendix D.. F.054
F.052

The organization known as CAPA (le Comité d'Action pour l'Assainisse- F.054
ment de l'Atmosphère - Action Committee for Atmospheric Purification),
under the presidency of M. Gallienne, comprises representatives of a dozen
associations and organizations concerned with vehicles and traffic; these
are listed in Appendix E. CAPA's objectives comprise the coordination of

information on all types of vehicle emissions and means of reducing them. Education of the public and the training of specialists are also included. CAPA maintains close liaison with UTAC. F.057

Information and activity on air pollution originating from fixed installations and from industrial processes are coordinated by CATPA (le Comité d'Action Technique contre la Pollution Atmosphérique - Technical Action Committee against Air Pollution). With M. Louis Armand as president and with the membership listed in Appendix F, this committee considers the problems of industrial zoning, the problems of air pollution arising from the provision of energy, from combustion, and from chemical processes, and the technologies of dispersion and abatement. Training of specialist personnel and dissemination of information to the public are included. F.053

Much of the detailed work of CATPA is undertaken by CITEPA (Centre Interprofessionel Technique d'Études de la Pollution Atmosphèrique - Interprofessional Technical Center for Air Pollution Studies) under the presidency of M. Nerot and with M. J-P. Détrie as director. The full membership is listed in Appendix G. This important group prepares quarterly technical digests of developments and activities in air conservation technology in France and abroad, formulates guiding documents on such matters as stack height calculations and advises government departments on the technical aspects of proposed legislation. F.052

Important in the chemical industry, IRCHA (Institut de Recherche Chimique Appliquée - National Institute of Applied Chemical Research) provides a service (on commission) to individual industries to investigate pollution problems. IRCHA is also making an area survey of air pollution sources and levels around Rouen, which involves methodology development and the testing of stack height calculations - in which it is State supported. Important work on abatement, such as high temperature, dust filtration, is also in progress. F.026

The national coal industry in France has a research and study group, CERCHAR (Centre d'Etudes et Recherches des Charbonnages de France), which F.061

undertakes a wide range of research relating to air pollution problems. These range from studies of nitrogen oxides formation in flames, through work on dust effects, measurement and control, to stack-gas dispersion design experiments; they include animal experiments for the prevention of silicosis.

Électricité de France (EDF), the national electricity generating and distribution organization, undertakes surveys around its thermal power plants. In several areas, these provide a basis for knowledge of ambient air quality. Extensive studies are also made at several centers of pollutant formation and dispersion, including wind-tunnel measurements. Flue gas desulfurization research has been terminated. F.062

Dispersion models have been developed by various private and university groups, including the Météorologie Nationale at Magny-les-Hameaux, F.024 using a hydraulic model. IRCHA plays a critical role in this context. F.026

Paris is the only town in France which has two Prefects. Each has its own laboratory, where work includes air conservation studies. The Laboratoire d'Hygiene de la Ville de Paris (Paris Municipal Hygiene F.041 Laboratory), directed by Dr. Coin, has responsibility for the urban hygiene problems of Paris, including the effects of air pollution in dwellings and enclosed public spaces (such as the Métro). Surveys of smoke and sulfur dioxide levels over many years at 94 sites in Paris and its suburbs have enabled maps to be drawn and trends deduced. Other pollutants, including biological matter, are measured intermittently.

The Laboratoire Central de la Préfecture de Police de Paris (Central F.035 Laboratory of the Paris Police Department) has responsibility for ambient pollution due to motor vehicles and to industrial and commercial emissions. Under the leadership of Professor Chovin, and as reported in the Annual Reports of the Laboratory, surveys of urban levels of carbon monoxide (at more than 300 sites), sulfur dioxide, lead and particulates have been made for several years, and nitrogen oxides measurements have started. Demonstrations of practical reductions of carbon monoxide emissions have been made with police vehicles, as have measurements of carbon monoxide and lead in the blood of policemen on and off duty. This laboratory's work has been markedly influential on government policy.

Also concerned with emissions from automotive vehicles is UTAC (l'Union F.057
Technique de l'Automobile, du Motocycle et du Cycle - Technical Union for
Cars, Motocycles and Bicycles). This private association, supported by the
motor manufacturing industry, has a well-equipped laboratory in which
vehicles are tested for conformity with all types of existing regulations.
As the laboratory is officially recognized under the vehicle emissions
regulations, its measurements are accepted by the Service des Mines, which
grants vehicle operating licenses. Measurements are also commissioned
(confidentially) by individual manufacturers. By virtue of its breadth of
experience, UTAC's opinions are consulted on the implications of proposed
vehicle regulations.

The Institut Francais du Pétrole (IFP - French Petroleum Institute) F.064
has a large laboratory in which it undertakes a wide range of research in
abatement techniques; emissions from internal combustion engines, gas
stream de-polluting, and fuel oil desulfurization. These last two processes
are said to be near commercialization.

There are, besides these organizations a large number of individual
companies active in air conservation work. Many are members of local or
national associations in their own sphere of activity - e.g., CERILH for F.066
the cement industry, IRSID for iron smelting, CTIF or COSTIC for space F.063
heating. In turn, these associations are loosely coordinated by the F.081
national professional grouping of CITEPA. F.091

The national petroleum group, ELF, conducts projects involving air
pollution through its affiliate Société Nationale des Pétroles d'Aquitaine F.101
(SNPA), which with laboratory facilities at its Lacq gas-field, also supports
the Lagor and INRA-Montardon Laboratories. F.036
F.022

Many university faculties have research programs relating to various
aspects of air pollution. Included are hygiene aspects, biological sampling
and dispersion studies (see, for instance, the Fluid Mechanics Institutes F.144
at Lille, Marseille and Toulouse). The hospital university college (collèges F.145
hospitaliers universitaires - CHU) in Rouen, Marseille and Besancon are also F.146
active in these matters. Many of these academic activities are supported by
DGRST grants; others, such as the work of Professor Bourbon at Toulouse, are F.147
related to the industrial problems of the area.

APPENDIX A

PRINCIPAL PROVISIONS OF THE LAW OF 19 DECEMBER 1917 REGARDING THE CLASSIFIED ESTABLISHMENTS

Industrial and commercial establishments are divided into three classes:

(i) Those which must be sited away from all dwellings because of a possible nuisance or danger to health;

(ii) Those which need not be kept separate from dwelling areas provided that adequate measures are taken to prevent damage or inconvenience;

(iii) Those which present no serious inconvenience either to neighbours or to public health and are subject to the general conditions issued in the interest of public health in respect of all similar establishments.

The first and second classes may only be operated with the authorisation of the Prefect of the appropriate Département and may not be constructed in zones other than those reserved for industrial exploitation under the provisions of the Law of 15 June 1943. Alterations to existing establishments in these classes should not aggravate their effects on the neighbourhood. In the event of such an establishment causing a nuisance or damage, the operator is required to take measures to rectify the situation at his own discretion. If, however, these measures prove inadequate the authorities may enforce such measures as they deem necessary.

Establishments in the third class are required only to give prior notification to the Prefect of the Département.

AMENDING LAW 61-842 OF 2 AUGUST 1961

Principal provision concerning air conservation:-

"All buildings and industrial, commercial, handicraft or agricultural establishments, vehicles or movable objects, possessed, operated or held by any private person or body corporate, shall be constructed, operated or used in such a manner as to prevent both the pollution of the atmosphere and smells which constitute a public nuisance, endanger health or public security, or are harmful to agriculture, the preservation of structures or public monuments and scenic beauty."

The provisions of the Law must be the subject of public administrative Regulations, issued by the Ministers of State concerned, and must specify:-

(i) The cases and conditions in which pollution by smoke, gases odours, etc. may be forbidden or controlled by law.

(ii) The periods allowed for compliance with the law.

(iii) The conditions for regulation and control of the construction of buildings, the opening of establishments not designated as classified establishments, the proper equipment of vehicles, the manufacture of mobile objects, and the permitted use of fuels.

APPENDIX B

DECREE 63-963 OF 17 SEPTEMBER 1963
(Supplementary to LAW 61-842 of 2 August 1961)

Introduction: — scope and penalties.

Section I: — measures applicable throughout France:

The Decree covers heating installations in administrative, industrial, commercial, professional buildings, or in dwelling buildings whether these buildings are public or private or owned by private persons or corporate bodies.

Technical specifications are to be issued by the Ministry for Industry, etc., which are to be observed in the manufacture, import or sale of equipment for the production of heat by combustion throughout the French market. The regulations covering these specifications must quote the period allowed for conformation with the regulations (this period should not exceed two years). At the end of this period it will be an offence to sell equipment that is not accompanied by a notice, issued by the manufacturer, stating the conditions for installation, adjustment, operation and maintenance of the equipment and the fuel for which the apparatus was designed. Inspectors shall have access to the installation for the purpose of taking samples or of making measurements.

When the installation is shown to be a source of pollution, the Prefect of the Département shall issue an injunction requiring the operators to adjust the installation, its method of operation or the type of fuel used, so that the nuisance is abated. If these measures are not taken or in an urgent case, the Prefect shall consult the Departmental Council of Hygiene (Conseil d'Hygiène) and then either implement the necessary work at the expense of the owner or close down the installation.

Section II: — the "Zones de Protection Spéciale" and the controls to be enforced within them:

These zones must be the subject of separate Decrees issued by a group of Ministers acting on the advice of the Prefect and Departmental Council of Hygiene. The selection of a zone is to be based on:-

the density and structure of the population;

the quality and concentration by weight of particulate matter in the atmosphere;

the concentration of sulphur dioxide or any other toxic gases in the atmosphere;

atmospheric absorption of solar radiation;

the influence of local climatological conditions.

The variation of these elements with time must also be taken into consideration.

APPENDIX B (continued)

The installations falling within the scope of Decree 63-963 must conform to the maximum limitations on any pollutant in their flue gases set by the subsequent Decree creating the "zone", which may also require the observance of further regulations, including maintenance schedules, fuel quality and quality of operator attending the installation. The owners or operators of installations with a heat output greater than 1000 thermies/hour are obliged to install and maintain permanent sampling facilities and to permit the installation of sampling facilities by control agents.

The Ministers of Public Health and Industry can issue a further Decree proscribing the use of heating equipment which is more than 10 years old in a "Zone" if there is no appropriate means by which it can satisfy the standards required. A delay period of not less than 5 years must be allowed, without prejudice to the Prefects' powers to act in a case of urgence or where abatement orders have been ignored.

None of the provisions in these Decrees applies to the Classified Establishments, but an additional Decree may be made in a similar form fixing measures of a general character applicable to all Classified Establishments situated within a "Zone".

APPENDIX C

DECREE OF 11 AUGUST 1964 ESTABLISHING "ZONES OF SPECIAL PROTECTION" IN PARIS

A. Two Zones are created:-

Zone I:

the whole of the 1, 2, 8, 9 and 17th arrondissements and parts of the 10, 16 and 18th arrondissements, (thus comprising a large part of Paris north of the Seine).

Zone II:

the remainder of Paris within the city limits.

B. Regulations are established controlling the operation of heating installations and defining the fuels permitted.

Installations must be designed and maintained so that they continue to conform to the emission limits. Installations of more than 350 thermies/hour must be visited at lease once a year by a person competent to check its operation. The operation of installations with a calorific output greater than 500 thermies/hour must be entrusted to a person competent in assuring its correct operation.

The coal burned in these Zones must not contain more than 15% of volatile matter. For liquid fuels, the following limitations are in force:-

Zone I:

Residual fuel oils, of sulphur content up to 2% max may be used only in installations with heating capacity greater than 1.000 thermies/hour (4m Btu/hr). (Effectively, therefore, all smaller installations must use domestic heating oil - sulphur 0.7% max).

Zone II:

Fuel Oil	Heating Capacity of Installation thermie/hr *
Heavy No.2 (Low Sulphur	1,000 upwards
Heavy No.1	500 upwards
Light	350 upwards

* 1 th/hr = 1.000 kCal/hr 4,000 Btu/hr

Temporary departures from these requirements may be permitted by the Prefect if a process is used which maintains the emission of pollutants within the limits prescribed for the "zone".

APPENDIX C (continued)

C. Limits on emissions are established:

Dense Smoke:

the index of opacity shall not exceed a value of 6 measured with the Bacharach apparatus.

Particulate Matter:

the weight of particulate material in the flue gases may not exceed:-

Zone I:

0.6 gramme/thermie of fuel consumed;

Zone II:

1.2 gramme/thermie of fuel consumed.

Sulphur Dioxide

whatever fuel is used, the concentration of SO_2 in the combustion gases shall not exceed a level corresponding to 2 grammes sulphur/thermie of fuel consumed in the furnace.

The determination of these levels must be made with apparatus, and according to methods, given in Technical Instructions.

APPENDIX D

AIR POLLUTION PREVENTION ASSOCIATION

(L'ASSOCIATION POUR LA PREVENTION DE LA POLLUTION ATMOSPHERIQUE)

Comité d'Honneur	A.P.P.A. (F.051)
M. Louis Armand	de l'Académie Francaise, Président du Comite d'Action Technique contre la Pollution Atmosphérique
M. Arrighi de Casanova	Directeur Général de la Chambre de Commerce et d'Industrie de Paris
M. le Docteur Aujaleu	Directeur Général Honoraire de l'Institut National de la Santé et de la Recherche Médicale
M. Benedetti	Ancien Préfet de la Seine
M. Bourdon	Président de la Commission d'Hygiène et de Sécurité du Conseil National du Patronat Francais
M. le Professeur Bugnard	Membre de l'Académie Nationale de Médecine, Professeur à la Faculté de Médecine, Conseiller Scientifique aupres du Haut-Commissaire à l'Energie Atomique
M. Couture	Secrétaire General de l'Energie
M. le Professeur Debre	Membre de l'Institut (Académie des Sciences) et de l'Academie Nationale de Medecine
M. Doublet	Prefet de la Region de Paris, Delegue General au District
M. Gallienne	President du Comite National d'Action pour l'assainissement de l'Atmosphère
M. Grimaud	Préfet de Police
M. Haas-Picard	President de l'Union des Chambres Syndicales de l'Industrie du Pétrole
M. le Professeur Roger Heim	Membre de l'Institut (Academie des Sciences)
M. le Professeur Jacquinot	Membre de l'Institut (Academie des Sciences), Directeur Général du Centre National de la Recherche Scientifique
M. le Professeur Marechal	Directeur de l'Institut d'Optique et de l'Ecole Superieure d'Electricite
M. Papon	Député du Cher
M. Piganiol	Ancien Delégué Général a la Recherche Scientifique

Comite d'Honneur (Continued)

M. le Professeur Policard	Membre de l'Institut (Académie des Sciences) et de l'Academie Nationale de Medecine
M. Serre	Ancien Ministre
M. Varlet	Ancien Vice-President du Comité Consultatif de l'Utilisation de l'Energie
M. Viaut	Directeur Honoraire du Service "Direction de la Meteorologie Nationale"

Conseil d'Administration

Président d'Honneur Fondateur:	M. le Professeur Bugnard, Membre de l'Académie Nationale de Medecine, Professeur à la Faculte de Medecine, Conseiller Scientifique aupres du Haut-Commissaire à l'Energie Atomique
President:	M. le Professeur Moureu, Membre de l'Institut (Academie des Sciences), Conseiller Scientifique aupres du Prefet de Police
Vice-Presidents:	M. le Professeur Agrege Roussel, Adjoint du Directeur de l'Institut National de la Sante et de la Recherche Medicale, Directeur du Centre de Recherches sur la Pollution Atmosphérique de l'I.N.S.E.R.M. M. l'Ingenieur General Avy, Inspecteur General de l'Institut National de Recherche Chimique Appliquee, chargé de l'etude de la pollution Atmospherique M. le Docteur Francois, Médecin-Inspecteur General, President du Comite Medical E.D.F.-G.D.F., Membre du Comite Consultatif des Etablissements Classes
Secretaire Géneral:	M. Queret, Ingénieur des Arts et Manufactures, Docteur en Pharmacie
Secrétaire General Adjoint:	M. le Docteur Sommer, Médecin Conseil Regional, Secretaire General du Comité de l'A.P.P.A. de Marseille-Provence
Tresorier:	M. Roisse, President du Groupement des Associations de Propriétaires d'Appareils a Vapeur et Electriques
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M. le Docteur Debat, Président de la Societe Seine-et-Oisienne de Défense contre la Pollution Atmospherique et Directeur des Laboratoires Debat
M. Detrie, Directeur du Centre Interprofessionel Technique d'Etudes de la Pollution Atmospherique
M. Ellefsen, Vice-Président, Delégue General de la Societe de Chimie Industrielle
M. Gallienne, President du Comité National d'Action pour l'Assainissement de l'Atmosphère
M. le Professeur Gauthier, Medecin des Hôpitaux de Paris, Professeur a la Faculte de Médecine de Paris, Membre du Conseil Superieur de l'Hygiène Publique de France
M. le Docteur Jarry, Médecin-Chef des Charbonnages de France
M. Lioret, Directeur de l'Association Technique de la Siderurgie Francaise
M. Mercier, Avocat a la Cour de Lyon, Adjoint au Maire de Lyon, Président Delegue du Comité de l'A.P.P.A. de Lyon
M. le Professeur Monod, Membre de l'Académie Nationale de Médecine, Professeur Honoraire de Chirurgie Pulmonaire à la Faculté de Médecine de Paris
M. Perdon, Directeur de l'Institut Francais des Combustibles et de l'Energie
M. de Retz, Ingénieur, Chef du Departement Exploitation du Service de la Production Thermique d'E.D.F.
M. le Professeur Senault, Professeur d'Hygiène et de Medecine Sociale a la Fraculte de Medecine de Nancy
M. le Professeur Trubaut, Membre de l'Institut (Académie des Sciences), Titulaire de la Chaire de Toxicologie et d'Hygiène Industrielle à la Faculté de Pharmacie de Paris, Chef du Service de Chimiotherapie à l'Institut Gustave-Roussy

Délégue General: M. Levantal, Avocat à la Cour

Comités Régionaux:

Annecy:	Président,	M. le Docteur Servettaz, Maire-adjoint Directeur du Laboratoire d'Hygiène
Arras:	President,	M. Engrand, Président de l'Union Patronale Interprofessionnelle du Pas-de-Calais
Besancon:	President,	M. le Professeur Agrege Ledoux, Chef du Service des Voies Respiratoires au Centre Hospitalier et Universitaire de Besancon
	Secretaire Géneral,	Mlle le Docteur G. Bernard, Directeur du Bureau d'Hygiène
Bordeaux:	President,	M. Chaban-Delmas, Député-Maire de Bordeaux
	President Délegue	M. Lescurat, Adjoint au Maire
	Secretaire General,	M. le Docteur Mathias, Médecin Conseil Régional
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	Secrétaire General,	M. le Professeur Jean l'Hirondel Titulaire de la Chaire de Clinique Médicale Infantile a l'Ecole de Medecine et de Pharmacie de Caen
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	Secrétaire Géneral,	M. Verelle, Directeur du Laboratoire Municipal
Dijon:	Président,	M. N...
	Vice-President,	M. le Docteur Zorn, Directeur du Centre Régional d'Education Sanitaire et Sociale
Grenoble:	President,	M. N...
	Secretaire General,	M. Fumey, Ingénieur
Lyon:	Président,	M. Pradel, Maire de Lyon
	Président Delégué,	M. Marque, President
	Secrétaire Géneral,	M. le Docteur Violet, Directeur du Bureau d'Hygiène et des Services de Médecine de la Ville de Lyon
Marseille:	President,	M. Defferre, Maire de Marseille
	Président Délegué,	M. le Docteur Girbal, Membre du Conseil Supérieur d'Hygiène
	Secrétaire Géneral,	M. le Docteur Sommer, Médecin Conseil Régional

APPENDIX D (continued)

Comités Régionaux (Continued)

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	Secretaire General,	M. Jean-Edmond Debionne, Ingenieur des Arts et Manufactures
Nantes:	President,	M. le Professeur Agrégé Boiteau, de la Faculte Mixte de Médecine et de Pharmacie de Nantes
	Secrétaire General,	M. le Professeur Agrégé Cottin, de la Faculte de Médecine de Nantes
Nice:	President,	M. le Docteur Robini, Conseiller Géneral des Alpes-Maritimes, Vice-Président du Comite Departemental d'Hygiène, Medecin Directeur du Service d'Hygiene de Nice
	Secretaire Géneral,	M. Ythier, Maitre de Conferences a l'Institut d'Etudes Scientifiques de Nice
Reims:	President,	M. le Professeur Dropsy, Titulaire de la Chaire de Bacteriologie et Virologie à la Faculté Mixte de Médecine et de Pharmacie de Reims
	Secrétaire Géneral,	M. le Professeur Valeyre, Titulaire de la Chaire de Biophysique a la Faculté Mixte de Médecine et de Pharmacie de Reims
Rennes:	President,	M. le Professeur Honoraire Gregoire, Titulaire de la Chaire de Pharmacie et d'Hygiene à la Faculté Mixte de Médecine et de Pharmacie de Rennes
	Secretaire Géneral,	M. le Professeur Yves Chauvel, Titulaire de la Chaire de Chimie Analytique à la Faculte Mixte de Médecine et de Pharmacie de Rennes
Saint-Etienne:	President,	M. Namy, Industriel
Val-De-Marne:	President,	M. Kornmann, Ingénieur E.P.C.I.
	Secretaire Genéral,	M. Fournier, Ingenieur des Services Techniques de la Ville de Paris
Strasbourg:	Président,	M. le Professeur Chaumont, Directeur de l'Institut de Médecine legale et de Medecine Sociale
	Secretaire Général,	M. Boeswillwald, Ingenieur des Arts et Manufactures

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Toulouse:	Président Délégué,	M. le Professeur Bourbon, Titulaire de la Chaire de Chimie Analytique Toxicologie et Hygiène Industrielle à la Faculté Mixte de Médecine et de Pharmacie de Toulouse
Tours:	President,	M. le Professeur Boulard, Titulaire de la Chaire d'Hygiene à la Faculte Mixte de Medecine et de Pharmacie de Tours
	Secretaire General,	M. le Docteur de Lauture

APPENDIX E

COMMITTEE OF ACTION FOR PURIFICATION OF THE ATMOSPHERE

(LE COMITE D'ACTION POUR L'ASSAINISSEMENT DE L'ATMOSPHERE)

Conseil d'Administration C. A. P. A. (F.054)

Président: M. Georges Gallienne

Membres:

- Chambre Syndicale de Constructeurs d'Automobiles
- Chambre Syndicale Nationale du Motocycle
- Chambre Syndicale Nationale de la Réparation Automobile
- Chambre Syndicale Nationale des Rectifieurs et Reconstructeurs de Moteurs
- Fédération Nationale des Industries des Equipements pour Vehicules
- Federation Nationale des Transports Routiers
- Societe "SOLEX"
- Syndicat National du Commerce en gros des Equipements, Pièces pour Véhicules et Outillages
- Touring-Club de France
- Union des Chambres Syndicales de l'Industrie du Petrole
- Union Technique de l'Automobile et du Cycle
- Union des Usagers de Véhicules de Transport Privé

APPENDIX F

COMMITTEE OF TECHNICAL ACTION AGAINST THE POLLUTION OF THE ATMOSPHERE

(LE COMITE D'ACTION TECHNIQUE CONTRE LA POLLUTION ATMOSPHERIQUE)

Conseil d'Administration C.A.T.P.A. (F.053)

Président: M. Louis Armand, de l'Académie Francaise

Vice Présidents: MM. Pierre Alby, Directeur Géneral de Gaz de France
Jacques Ferry, Président de la Chambre Syndicale de la Siderurgie Francaise
Paul Gardent, Directeur Général des Charbonnages de France
Roger Ginocchio, Directeur du Cabinet du Ministre Chargé du Plan et de l'Aménagement du Territoire
Pierre Godard, du Conseil National du Patronat Francais
Jean Majorelle, Président du Comite Professionnel du Petrole

Membres: MM. Jean Beaudelaire, Directeur des Services Technique et Scientifique du Syndicat National des Fabricants de Ciments et de Chaux
Pierre Bertrand, Président du Syndicat National des Exploitants de Chauffage et des Distributeurs de Fluides Thermiques
Robert Delsoi, Inspecteur General à Gaz de France
Roger Cadiergues, Directeur du Comite Scientifique et Technique de l'Industrie du Chauffage et de la Ventilation
Andre Cantoni, President de l'Union des Chambres Syndicales du Chauffage, de la Ventilation et du Conditionnement de l'Air
Jean Chenevier, President Directeur Genéral de la Societe Francaise des Pétroles B.P.
Michel Douchez, Directeur General du Centre Technique des Industries Aérauliques et Thermiques
Roger Ducrot, President de l'Association des Industriels du Petrole
Emile Briand, Chef du Service Technique de la Direction (Services Commerciaux) des Houillères du Bassin du Nord et du Pas-de-Calais
Jean Feron, Directeur Adjoint, Chef du Service de la Production Thermique d'Electricite de France
Pierre Fortain, Président du Centre du Mazout
Ernest de la Hitte, Directeur Technique de l'Union des Industries Chimiques
Paul Leclers, Président de l'Union des Fabricants d'Appareils de Chauffage Domestique
André Missenard, Administrateur de l'Institut Francais des Combustibles et de l'Energie

Conseil d'Administration (Continued)

MM. Jean Orsal, Vice-Président Délegué de l'Union des Chambres Syndicales de l'Industrie du Petrole
Michel Parent, Directeur-Gérant de l'Union Nationale de la Proprieté Immobilière
Raymond Preux, President du Comité de l'Importation Charbonnière
Robert Rabet, de l'Union Intersyndicale des Constructeurs de Matériel Thermique
Jean Regis, Président du Syndicat des Constructeurs de Fours et d'Equipements Thermiques
Bernard Robelin, Délegué General de la Conféderation Nationale du Commerce Charbonnier
Robert Roisse, President du Groupement des Associations de Proprietaires d'Appareils à Vapeur et Electriques
Gérard Sabouret, Directeur Géneral Adjoint de la Compagnie Total-C.F.D.
Lucien Santini, Vice-Président de l'Association Technique de l'Importation Charbonnière
Edmond Vercouter, Président de la Societé Générale de Founderie

Secrétaire: M. Henri Perdon, Directeur de l'Institut Francais des Combustibles et de l'Energie

APPENDIX G

INTERPROFESSIONAL TECHNICAL CENTER FOR AIR POLLUTION STUDIES

(LE CENTRE INTERPROFESSIONEL TECHNIQUE D'ETUDES DE LA POLLUTION ATMOSPHERIQUE)

Conseil d'Administration C.I.T.E.P.A. (F.052)

President: M. G. Nerot, Vice-Président Délégue de l'Institut Fr
des Combustibles et de l'Energie
Vice-Presidents: MM. P. Alby, Directeur Général de Gaz de France
J. Feron, Directeur Adjoint, Chef du Service de l
Production Thermique d'Electricité de France
C. Laurent-Atthalin, Directeur des Services Commerciaux des Charbonnages de France
J. Orsal, Vice-President Délégue de l'Union des Chambres Syndicales de l'Industrie du Pétrole
President: E. Vercouter, Président de la Société Générale de
Fonderie
Tresorier: M. P. Godard, du Conseil National du Patronat Francais
Directeur: M. J.-P. Detrie, Ingenieur Civil des Mines
Membres:
- Association Technique de l'Importation Charbonnière,
  représentée par M. Santini
- Bureau de Normalisation du Petrole, represente par
  M. Plet-Beaupre
- Centre du Mazout, représenté par M. Fortain
- Chambre Syndicale de la Sidérurgie Francaise, représentée par M. Lioret
- Charbonnages de France, représentés par M. Boivin
- Confederation Nationale du Commerce Charbonnier, represente par M. Robelin
- Conseil National du Patronat Francais, represente
  par M. Godard
- Electricité de France, représentee par M. Feron
- Gaz de France, represente par M. Alby
- Groupement des Associations de Propriétaires d'Appareils a Vapeur et Electriques, represente
  M. Roisse
- Institut Francais des Combustibles et de l'Ener,
  represente par M. Nerot
- Section Album et Fabricants d'Appareils de Chau
  Domestique au Syndicat Genéral des Fondeurs, repr
  par M. Vercouter
- Syndicat des Constructeurs de Fours et d'Equipemen
  Thermiques, represente par M. Regis
- Syndicat des Exploitants de Chauffage et des Distri
  de Fluides Thermiques, représente par M. Bertrand
- Syndicat General des Fondeurs de France, represent
  par M. Delachaux
- Syndicat National des Fabricants de Ciments et de Chaux, represente par M. Beaudelaire
- Union des Chambres Syndicales de l'Industrie du Chauffage, de la Ventilation et du Conditionnement de l'Air, representee par M. Cadiergues

Conseil d'Administration (Continued)

- Union des Chambres Syndicales de l'Industrie du Pétrole, representée par M. Orsal
- Union des Industries Chimiques, representee par M. de la Hitte
- Union Intersyndicale des Constructeurs de Materiel Aeraulique, Thermique et Frigorifique, representée par M. Douchez.

Comite Scientifique Consultatif

Président: M. le Professeur Lafuma, Directeur du Centre d'Etudes et Recherches de l'Industrie des Liants Hydrauliques (C.E.R.I.L.H.)

Membres: MM. l'Ingenieur Géneral Avy, Inspecteur General a l'Institut National de Recherche Chimique Appliquée, chargé de l'etude de la pollution atmosphérique

Docteur Boulenger, Directeur Général de la Santé Publique - Ministère de la Santé Publique et de la Securite Sociale

Professeur Brun, Directeur du Laboratoire de Mécanique des Fluides, Centre National de la Recherche Scientifique (C.N.R.S.)

Professeur Bugnard, Conseiller Scientifique auprès du Haut-Commissaire à l'Energie Atomique

Cazala, Chargé du Service de la Recherche et du Progrès Industriel, Ministère du Développement Industriel et Scientifique

Demon, Directeur-Adjoint, Service des Inventions et de la Recherche Appliquee (C.N.R.S.)

Jouan, Sous-Direction de l'Hygiène Publique - 4^{e} Bureau - Ministère de la Santé Publique et de la Sécurite Sociale·

Professeur Letort, Directeur General Scientifique du Centre d'Etudes et Recherches des Charbonnages de France (C.E.R.C.H.A.R.)

Professeur Moureu, Membre de l'Institut (Académie des Sciences), Président de l'Association pour la Prévention de la Pollution Atmospherique (A.P.P.A.)

Rebiere, Ingenieur en Chef des Mines, Chef du Service de Prévention des Nuisances Industrielles à la Direction de la Propriete Industrielle des Chambres de Commerce et d'Industrie et de l'Artisanat, Ministère du Développement Industriel et Scientifique

Professeur Agrege Roussel, Directeur du Centre de Recherches sur la Pollution Atmospherique, Institut National de la Santé et de la Recherche Médicale (I.N.S.E.R.M.)

Comite Scientifique Consultetif (Continued)

l'Ingenieur General Schowb, Délegue Général,
Association Nationale de la Recherche Technique
(A.N.R.T.)
Ternisien, Délégation Generale a la Recherche
Scientifique et Technique (D.G.R.S.T.)
Professeur Truhaut, Membre de l'Institut (Académie
des Sciences), Professeur de Toxicologie à la Faculté
de Pharmacie de Paris
Professeur Veron

F 004 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S X 2 3 1.71 S A

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: DÉLÉGATION GÉNÉRALE À LA RECHERCHE SCI. ET TECH.

General Delegation for Scientific and Technical Research

ACRONYM: DGRST

See also

ADDRESS: 35 rue St. Dominique,
75 PARIS 7.

Tel: 551.74.30

AFFIL: Premier Ministre
(Prime Minister)

Title	PERSONNEL	Function
M	Ternisien	
Mme	Delahaye	

AP aims and actions:

Coordinates and subsidises research (incl.AP) in university and private labs.
Arranges national conferences; involved in many international meetings.

Comments:

Established 1969: expected to dispose of much larger budget (Fr. 250m/yr? - for all supported programmes) during next few years (6th 4-yr Plan).

Environmental problems considered by WG "Nuisances", with sub-group for AP (for members, see over).

F.004 D G R S T 1.71 ×

F.004 Délégation Générale à la Recherche Sci. et Tech. 1.71

Members of Sub-Group for AP

Pr. [illegible], Président	I.N.S.E.R.M.	F.021
M. Détrie, Rapporteur	C.I.T.E.P.A.	F.052
Mme Chapuis	C.G.C.	F.00[illegible]
Mme Delahaye	D.G.R.S.T.	F.004
MM. Bernard	I.R.Ch.A.	F.026
[illegible]avi	C.E.R.A.F.E.R.	
Bourdon	I.N.S.E.R.M. - Viroulet	F.021
Briuard	Faculté des Sciences de Paris	F.143
Chovin	Labo. Cent. de la P. P.	F.075
Dumont	C.E.T.I.A.T.	F.085
Jacquet	E.D.F.	F.00[illegible]
Letort	C.E.R.CHAR	F.061
Prevel	C.E.A.	F.040
Saï	I.F.P.	F.064

F 001 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 5 7

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME MINISTRE DE L'ENVIRONNEMENT

Minister for the Environment

ACRONYM

See also F.002

ADDRESS 2 rue Royale,
75 PARIS 8.

Tel

AFFIL Prime Minister

Title	PERSONNEL	Function
M.	Robert Poujade	minister
M.	Pierre Bally	director
M.	Pierre Brouy	chef de cabinet
M.	Jean-Baptiste Dubief	ass't. chef de cabinet
M.	Serge Antoine	

AP aims and actions

To protect and improve the environment; to prevent, reduce or suppress pollutants or nuisances of all kinds and from all sources.
To develop, with other ministries, appropriate regul'ns.
To inform public opinion; and maintain international contacts.
To organize and preside over the Interministerial Cttee for the env't (mostly water pollution), and the Nat'l Council for the Protection of Nature.

Comments

Created by Decree of 2 February 71.

F.001 Ministre de l'Environnement 4.71

F 002 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 5 7

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME HAUT COMITÉ DE L'ENVIRONNEMENT

High Committee for the Environment

ACRONYM

See also F.001

ADDRESS 2 rue Royale,
75 PARIS 8.

Tel

AFFIL Prime Minister

Title	PERSONNEL	Function
M.	R. Poujade	president (Min. for env't).
M.	S. Antoine	secretary general

+ 9 representatives of Ministries concerned.
- 9 experts nominated by the Prime Minister.
- other experts coopted ad hoc.

AP aims and actions

In the context of improving the framework of life, of amenities, pollution and nuisances, land management, and factors affecting man's environment:-
- to review problems, and propose guidelines & policies;
- to coordinate action of public and private bodies;
- to supervise dissemination of information;
- to assist in the coordination of proposed laws and regulations prepared by various ministries.

Comments

Established by Decree 30 July 1970; modified by Decree 2 February 1971.
Operates in whole or in part as appropriate.

F.002 Haut Comité de l'Environnement 4.71

F 005 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SECRÉTARIAT GÉNÉRAL DE L'ENERGIE
General Secretariat for Energy

ACRONYM:

See also

ADDRESS: 69 rue de Grenelle,
75 PARIS 7.

Tel:

AFFIL: Ministère de l'Industrie

Title	PERSONNEL	Function
M.	M. Cocude	

AP aims and actions:
Advice on AP aspects of energy production.

Comments:

F.005 Secrétariat Général de l'Energie 4.71

F 021 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INST. NAT. DE LA SANTÉ ET DE LA RECHERCHE MÉDICALE
National Institute of Health and Medical Research

ACRONYM: INSERM

See also F.036 F.147

ADDRESS: 3 rue Léon Bonnat,
75 PARIS 16.

Tel:

AFFIL: Min. des Affaires Sociales
(Min. of Social Affairs)

Title	PERSONNEL	Function
Dr.	Aujaleu	director
Prof.Dr.	Bourbon	director for AP (Toulouse)
Prof.Dr.	Roussel	" " " (le Vésinet)

AP aims and actions:
Biochemical studies of AP: effects of SO_2 NO_x F on microorganisms and animals, esp. lung tissues. (Toulouse).
Epidemiological studies of lung cancer in relation to AP. (Toulouse).
Development of pollutant measuring methods (Toulouse).
Studies of ambient AP at Toulouse and Lacq (Toulouse).
Effects of automotive emissions (le Vésinet).
Publishes: "Bulletin de l'INSERM" (Paris).

Comments:
Research centres for AP effects:
44 Chemin de Ronde,
78 LE VÉSINET.
and
Vigoulet-Auzil,
31 TOULOUSE.
tel: (61) 81.77.50
Toulouse lab. closely linked with "Lagor" (F.036).

F.021 INSERM 1.71

F 022 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 8 4

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INST. NAT. DE RECHERCHES AGRONOMIQUES, Lab de la P.A.
Nat. Inst. for Agronomic Research, AP Laboratory

ACRONYM: INRA Montardon

See also F.036 F.029

ADDRESS: 64 MONTARDON

Tel: (59) 33.17.33

AFFIL: Min. de l'Agriculture

Title	PERSONNEL	Function
M.	L. de Cormis	director*
	total of 5P/NP - local staff	

AP aims and actions:
Effects of AP (especially SO$_2$ and F) on plants and trees. Outstations and test plots at Lacq, Lannemezan, Albertville, and in valleys of Maurienne, Hte. Durance and Romanche. (where cooperates closely with CERAFER-Grenoble F.029).
Undertakes specific surveys of plant effects around industrial sites (Lacq, Pauillac, Fos, etc.).

Comments:
Head office of INRA at:
149 rue de Grenelle,
75 PARIS 7,
tel: 551.41.09
M. Bustarret, director.
*AP lab is joint function of INRA and of "Lacq" lab. (F.0[illegible]).

F.0[illegible] INRA - Montardon 1.71

F 026 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 8 4

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUT NATIONAL DE RECHERCHE CHIMIQUE APPLIQUÉE
National Institute of Applied Chemical Research

ACRONYM: IRCHA

See also F.007

ADDRESS: Boîte Postale 1,
91 VERT-LE-PETIT

Tel: 496.22.21

AFFIL: Min. de Recherche et Développement Industrielle (Min. Indust. Res. and Develt)

Title	PERSONNEL	Function
M	J. Chédin	director general
M	Debras	labs. manager
Dr.	M. Benarie	AP section head
M	Guichard	asst " "
	total of ~17 on AP	

AP aims and actions:
Development of measuring techniques for pollutants.
Identification and measurement of pollutants in Rouen urban/industrial area; development of source inventory and diffusion model: atmospheric chemistry of SO$_2$.
Surveys, on commission, of individual industrial sources.
Measurement of SO$_x$ NO$_x$ dust in Paris, Rouen, Vert-le-P; runs OECD background station; preparing AP survey.
Studies of dirtying and corrosion of metals by AP.
Dust filtration (esp. high temp.) and scrubbing (odours) for cleaning gas streams.

Comments:
Paris office at:
12 quai Henri IV,
75 PARIS 4,
tel: 272.82.70.
Budget from Ministry, DGRST (F.004) and commissioned private work (total: Fr. 4 m/yr.)
Much other work besides AP.
Representation on international gps.
M. Avy (scientific adviser) died 10.70.

F.026 I R C H A 1.71

F 029 NAT A ~~B~~ C D E F 01 02 03 04 05 11 ~~12~~ 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 1.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: CENTRE NATIONAL... POUR L'AGRICULTURE, LES FORÊTS...*

Nat. Res. Centre for Agriculture & Forestry, etc. - Grenoble

ACRONYM: CERAFER

See also F.022

ADDRESS: Boîte Postale 114,
38 ST. MARTINE D'HÈRES.

Tel (76) 44,78,12

AFFIL: Min. de l'Agriculture

Title	PERSONNEL	Function
Ing.Gén.	J. Bossavy	director

AP aims and actions:

Observation of the effects of SO2 and F cpds on coniferous trees, esp. in the valley of the Maurienne.

Comments:

* Centre National d'Etudes Techniques et de Recherches Technologiques pour l'Agriculture, les Forêts et l'Equipment Rural - Centre Interrégional de Grenoble (Other centres of CERAFER not concerned with AP).
Cooperates closely with INRA-Montardon (F.022).

F.029 CERAFER - Grenoble 1.71

F 030 NAT A ~~B~~ C D E F 01 02 03 04 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SERVICE DE SANTÉ DES ARMÉES, Centre de Recherches

Armed Forces Health Service, Research Centre

ACRONYM:

See also

ADDRESS: 108 Boulevard Pinel,
69 LYON 3.

Tel

AFFIL:

Title	PERSONNEL	Function
Lt.Col.	R. Fontanges	director

AP aims and actions:

Studies of the effects of fine particulates on health.

Comments:

F.030 Service de Santé des Armées, Centre de Recherches

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
F	036	REG	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	1.71	S T

NAME: CENTRE DE RECHERCHES... P.A... DE LA RÉGION DE LACQ
AP Research Centre for Lacq area

ACRONYM: "LAGOR"
See also F.021 F.022 F.101

ADDRESS: 64 LAGOR

Tel: (64) 68.28.85

AFFIL: Préfet des Pyrénées Atlantiques.
INSERM (F.021
INRA (F.022

Title	PERSONNEL	Function
Prof.Dr.	P. Bourbon	health section (see F.021
M.	Molenat*	meteorology section
M.	L. de Cormis	phytopharmacy section (located at Montardon - see F.022

AP aims and actions:

Surveys of movements and concentrations of AP in industrial area of Lacq.
Physics and chemistry of SO_2 in atmosphere.
Effects of SO_2 and F on animals and plants.

Comments:

Established 1961 to study AP problems in natural-gas/industrial area of Lacq.
* Director of SW Region of Météo. Nationale.
Works closely with related laboratories of INSERM and INRA (see F.021-2).
Supported also by SNPA (F.101) and Péchiney.

F.036 "Lagor" 1.71

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
F	051	ANP	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	1.71	S T

NAME: ASSOCIATION POUR LA PRÉVENTION DE LA POLLUTION ATMOSPHERIQUE
Association for the Prevention of AP

ACRONYM: APPA
See also F.050-2-3-4

ADDRESS: 62 rue de Courcelles,
75 PARIS 8.

Tel: WAG.66.51

AFFIL: "Comite de Coordination" (F.050).

Title	PERSONNEL	Function
Prof.	H. Moureu	President
M.	Queret	Secretary
	(members listed in Text Appendix)	

AP aims and actions:

Coordination of Information on AP, esp. for CATPA (F.053) and CITEPA (F.052).
Publishes: "Pollution Atmosphérique" (Q'ly, Fr.48/yr) as a medium for public education.
Advises public authorities through sub-cttees on flora, fauna, and green areas.
Organises conferences.

Comments:

Established 1958, officially recognized 1962.
Has regional committees; also library and exhibition material.
Member of IUAPPA (X.023).

F.051 A P P A 1.71

F 062 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.[illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ÉLECTRICITÉ DE FRANCE

French (National) Electricity

ACRONYM EDF

See also

ADDRESS 1 quai de Saint-Ouen,
93 SAINT DENIS.

Tel PLA.[illegible]

AFFIL

Title	PERSONNEL	Function
M	Debrun	director
M	de Ret[illegible]	chief production engr.
M	Jacquet	director of research dept.

AP aims and actions

Measurement of dust and SO2 emissions from (thermal) power stations using [illegible].
Research into SO2, NOx in combustion gases; proposing [illegible].
Improvement of precipitators and filters.
Studies of [illegible]; preparation of dispersion formulae; wind tunnel simulation.
Publishes annually: "Prévention des Nuisances d'Exploitation".

Comments

Research at CHATOU.*
Pilot plant at ST. OUEN.
Head office at:
2 rue de Messine,
75 PARIS.

* [illegible] Watier,
[illegible] . [illegible].44

F.062 Électricité de France 5.[illegible]

F [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME SOCIÉTÉ NATIONALE DES PÉTROLES D'AQUITAINE

National Aquitaine [illegible].

ACRONYM SNPA

See also F.07[illegible]

ADDRESS rue Nélaton,
75 PARIS 15.

Tel

AFFIL ELF Group

Title	PERSONNEL	Function
M	[illegible]. Bannéres	director of CIRN (Centre d'Information et de Recherche sur les Nuisances).
M	Carteur	
Dr.	Barge	

total about 30 [illegible] for AP

AP aims and actions:

Surveys of H2S and SO2 around Lacq (since 1958).
Development of dispersion model for area (with Météo. Nat and Fac. de Sci, Pau).
Evolution of pollution tracer technique involving neutron-activation of indium compounds.
Studies of odour and noise patterns around Feyzin refinery: identification of malodorous compounds.
Studies and control of flue-gas desulphurisation techniques.
Development of fuel/water emulsion firing for smoke reduction.

Comments:

Part of nationalized ELF petroleum group: responsible for large high-S gas field at Lacq.
Have lab. at Lacq:-
Centre de Recherches,
64 LACQ.
tel: [illegible]
which is closely linked with "Lacor" (F.07[illegible]).

F.101 Société Nationale des Petroles d'Aquitaine 1.71

F 102 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ESSO STANDARD SAF
"Esso France"

ACRONYM: ESSAF
See also GB.083 I.054

ADDRESS
Rue de Tronquet, BP 6
76 MONT-SAINT-AIGNAN.

Tel Rouen, 70.06.90
AFFIL Standard Oil N.J.

Title	PERSONNEL	Function
Dr.	J. K. Patterson	Director
M	M. Calmettes	i/c AP
M	R. Dupas	AP adviser

AP aims and actions:
Investigation of effects of gasoline quality on vehicle emissions.
Measurements of ambient AP in Rouen area.

Comments:
Head office at 78 COURBEVOIE.

F.10[illegible] ESSAF [illegible]. 1

F [illegible] [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LABORATOIRE D'AÉRODYNAMIQUE
Aerodynamics Laboratory

ACRONYM
See also

ADDRESS
1 Place Montierneuf,
86 POITIERS

Tel [illegible] 41.37.1[illegible].
AFFIL

Title	PERSONNEL	Function

AP aims and actions:
Studies of dispersion with models in wind tunnel.

Comments:
[illegible] on [illegible]mission.

F.1[illegible] Laboratoire d'Aérodynamique 1.71

F 127 OOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ORGANISATION, CONCEPTION, CONTRÔLE, RÉALISATION
ACRONYM OCCR
See also

ADDRESS 3 rue Henri Heine
75 PARIS 16

Tel MIR.41.[illegible]3
AFFIL

Title	PERSONNEL	Function
M.	Commelin	president

AP aims and actions
Studies of the effect of combustion efficiency on emissions.

Comments
Work commissioned by CITEPA (F.C[illegible]).

F.127 Organisation, Conception, Contrôle, Réalisation [illegible]

F 147 AOT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME INST. D'OPTIQUE DE PARIS, Lab. de Physique des Aérosols
Optical Institute, Paris: Aerosol Physics Laboratory
ACRONYM
See also

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Title	PERSONNEL	Function
Prof.	J. Bricard	director

AP aims and actions
Studies of the properties of [illegible]

Comments

F.147 Inst. d'Optique de Paris, Lab. de Physique des Aerosols [illegible]

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Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: UNIVERSITÉ DE LYON, Laboratoire de Mécanique des Fluides ...
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AP aims and actions

Studies of particulate aerosols.

Comments

F.159 Université de Lyon, Lab. de Mécanique des Fluides 6.70

GERMANY

(Bundesrepublik Deutschland)

GENERAL AIR POLLUTION BACKGROUND

Geography

Although having important economic interests in agriculture, viniculture and forestry--and therefore some concern about the effects of air pollution on crops--Federal Germany is foremost a highly industrialized country with dense centers of population. The main industrial activity lies in the Rühr Area (Rurhgebiet) in North-Rhine Westphalia. Possibly the largest industrial concentration in Europe, it encompasses extensive coal mining and production or iron, steel and metal artefacts, heavy chemicals and textiles. Elsewhere in the country, shipbuilding, mechanical engineering and oil refining are found at the river port of Hamburg, with oil refining also at Karlsruhe (in Baden-Württemberg) and Ingolstadt (in Bavaria). Additional mechanical engineering concerns are located at Hannover and Brunswick (Braunschweig) in the north, at Kassel in the center, at Mannheim and Stuttgart in the southwest, and at Munich (München), Nuremberg and Augsburg in the southeast. Large resources of deep-mined coal and of surface-mined lignite (brown coal) to the west of Cologne (Köln) are extensively used in power generation. With the widely dispersed industrial activity and the many large towns, there is naturally an intensive road and rail transport system.

Political Features

West Germany is a federation of 10 Länder*, including Berlin. The Federal Parliament (Bundestag) is elected by universal suffrage, but the Federal Council (Bundesrat) is composed of nominated members from the governments of the Länder. Executive power is vested in the Land governments, unless the Basic Law (Grundegesetz) of the Federal Constitution prescribes or permits otherwise. Federal law, where it exists, automatically supersedes Land law.

*"Land" (plural, "Länder") is a state or county of the Federal Republic.

D.001 Concern about pollution is widespread in Federal Germany, ranging from public discussion and newspaper articles, through research at numerous technical institutes, to the deliberations of an Interparliamentary Working Group at the Federal level. Activity at the Land level is particularly marked in Nordrhein-Westfalen, understandably in view of the industrial concentration in and around the area known as the Ruhrgebiet--the Ruhr valley industrial area (including the large towns of Essen, Dortmund, Duisburg, Bochum and Gelsenkirchen).

The Federal government announced in October 1970 an extensive program to cover all aspects of environmental conservation: air quality conservation, water conservation, biocides, waste disposal, noise, landscape, and the development of new technologies for pollution abatement. Government statements dealing with immediate needs as well as long-range objectives have been published. Two principles are now established:

1. "The originator is liable for any damage to the environment resulting from his operations."

2. "Environmental conservation shall be considered at an early stage, that is, before construction of industrial plants, and during the manufacture of automotive and heating fuels."

Present Controls

Federal

Responsibility for controlling air pollution is currently divided among the Federal and Land governments. According to the Constitution, Federal regulations, where they exist, take precedence over Land regulations. Until now, there have been no Federal regulations to safeguard public health (as opposed to industrial health) specifically against the effects of air pollution from general sources. As regulations affecting industry, commerce and trade do come within Federal powers, however, there are indirect possibilities for controlling general emissions even under the present laws.

Under the Bürgerliches Gesetzbuch (Federal Civil Code), which protects the rights of the individual to enjoy his property, an aggrieved person can take action in the courts to recover damages, but to do so is no easy matter as the Code is rather general and imprecise. The Federal Government provides a basis for the control of industrial emissions (but not domestic emissions) through the Gewerbe Ordnung (GewO--Industrial Code) of August 4, 1960. All industrial and commercial undertakings are bound by the provisions of the Industrial Code, Paragraph 16 of which requires that an operating license must be obtained for any plant that may be a hazard or nuisance to neighbors or the public.

The types of installation to which the provisions of Paragraph 16 apply are listed in an official Ordinance (Verordnung über genemigungsbedürftige Anlagen nach Para 16 GewO vom 4 August 1960) published--as are all such official decrees--in the Bundes Gesetz Blatt. The main types of installation include:

1. Solid or liquid fuel furnace with a rated capacity exceeding 800,000 cal/hr (3-1/4m Btu/hr);

2. Chemical works and oil refineries;

3. Road asphalt plants;

4. Garbage or refuse disposal plants; and

5. Test beds for engines and turbines exceeding 400 hp and for aero engines.

Under the Industrial Code, the Federal government also issued on September 8, 1964, the TALuft (Technische Anleitung zur Reinhaltung der Luft--Technical Directives for Air Pollution Control). Authorities granting an operating license for a plant are obliged to follow these Directives, which contain both general provisions and specific minimum requirements.

To qualify for a license under the general provisions of the Industrial

Code, a new plant must be equipped with devices for limiting or dispersing
emissions that reflect the latest stage of technical development, which is
determined from the codes of practice (Richtlinien) prepared by the D.021
appropriate committees of the Verein Deutscher Ingenieure (VDI). This D.022
state of technology represents, not just technical feasibility, but
practical installations which have proved successful in a comparable plant
under efficient management. The specific minimum requirements of the
TALuft specify what is needed for individual types of installation.

The ambient pollution levels resulting from these installations must not exceed established limits for the area around the plant. These limits are specified by the TALuft in terms both of emissions and of ambient air quality ("immissions"). Thus, maximum levels are given for plume color and the dust burden of effluent gases from furnaces and from crushing, screening and filling operations; ambient levels are quoted for dust, chlorine, nitrogen oxides, hydrogen sulfide and sulfur dioxide. The TALuft also contain directives for stack height calculation (also based on a VDI Richtlinie). The Federal law "Gesetz uber Vorsorgemassnahmen zur Luftreinhaltung" of May 17, 1965, provides for surveys of ambient pollution levels to be made in densely populated areas.

Vehicle emissions controls are also required by Federal law because they are seen as part of traffic regulation, a Federal responsibility. They are contained in Appendixes to the Strassenverkehrszulassungsordnung (Vehicle Licensing Regulations). Decrees of May 8, 1968, and October 14, 1968, required new cars to be equipped with devices for positive crankcase ventilation and to meet limitations on the emissions of carbon monoxide and unburned hydrocarbons during a standard driving test. The pan-European ECE model regulations are expected to be adopted in parallel with the existing German regulations. German vehicle manufacturers have the option of choosing the regulation to which their products conform.

Länder

Since any Federal regulations pre-empt Land powers to regulate, but the Land authorities remain responsible for enforcement, the Federal regulations are incorporated into local regulations of one kind or another. For example, Federal regulations are included in the Bauordnung (Building Regulations) in Hamburg and in the Landesstraf--und Verordnungs Gesetz (Land Penalties and Regulatory Decrees) in Bavaria. Some Länder, however, have also introduced statutory decrees to control emissions and "immissions" from installations not governed by Federal rules. For example, local decrees regulate maximum emissions from oil-fired furnaces in the range of 14,000 to 800,000 cal/hr, furnaces which are not covered by the TALuft. Local regulations may also control even larger furnaces, e.g., those in the Bundespost or in hospitals - which are outside the TALuft.

These local decrees vary from Land to Land--as does concern about air pollution--generally according to the severity of the problem. Most active is the government of Nordrhein-Westfalen which, after making a number of surveys, introduced an Immissionsschutzgesetz (Regulation for Protection Against Air Pollution, Noise, and Vibration). D.401 It should be pointed out, however, that the regulation does not contain ambient air quality standards. Similar legislation has been enacted in three other Länder: Niedersachsen, Saarland and Baden-Württemberg. In the other six Länder and Berlin, air pollution control is achieved indirectly through provisions in the local building requirements (Bauordnung) or other regulations.

The government of Northrhine-Westphalia has also introduced a "smog prevention plan" for the Ruhr Area for periods of temperature inversions when the atmosphere becomes stagnant. During the period between October 15 and March 1 each year, when these unfavorable weather conditions are most likely, the ambient levels of sulfur dioxide are monitored by the Landesanstalt für Immissionsschutz...at sampling points in specified urban and D.402 industrial areas. If several of these levels reach a value of 2.5 mg SO_2/m^3 and unfavorable weather conditions lasting at least 2 days are predicted by the Meteorological Service, the first warning is issued. The second warning is given when ambient levels reach 5.0 mg SO_2/m^3 and the weather conditions are expected to prevail for at least 24 hours. When these conditions exist, the operators of installations that are subject to special measures under the provisions of Paragraph 25 of the Gewerbe Ordnung, or whose licenses under Paragraph 16 of the GewO contain this stipulation, are obliged to change to the use of low sulfur fuels or feedstocks until the situation improves.

Administration

The Federal responsibility for the control of air pollution through the Gewerbe Ordnung is assigned to the Ministry of Economics (Wirtschaftsministerium), but the views of the Ministry of Health (Gesundheitsministerium) are consulted because of the implications for public health. Legislation affecting vehicle emissions is prepared by the Ministry of Transport (Verkehrsministerium), again with the approval of the Ministry of Health.

Federal authorities have no power of enforcement. This responsibility is vested in the Länder governments, many of which also have their own regulations. Because of the varied nature of these controls in the different Länder, executive responsibility is assigned to different departments reporting to various ministries (Construction, Health, Labor, etc.).

Much of the administration of the industrial control regulations
is carried out by the Gewerbeaufsichtsämter (Industry Supervision Offices), D.016
found in all Länder. These bodies are responsible to Land Ministries for
labor safety, emissions, and industrial working conditions. They are
assisted--as is industry--by the research, testing and advisory facilities
of two semi-private organizations: the Technische Überwachungs-Vereine (TÜVe-- D.020
Technical Supervision Associations) and the Gewerbliche Berufsgenossenschaften etc.
(Industrial Safety Assurance Organizations). D.017-8

Federal and Land pollution control regulations are strong and precise, but their application is tempered by a realistic desire on the part of government and other groups to achieve agreement. Legal prosecutions are not frequent, and governemnt and industry cooperate to a considerable extent, as shown by the special roles of the TÜV's and the VDI. Where legislative control is difficult (for constitutional or for practical reasons), the government may ask for--and receive--a large measure of self-restraint. Regulations are generally applied in such a way as not to imperil the economic viability of an enterprise; for instance, older installations are permitted higher dust emissions than new ones, and improvements may be subsidized from various funds. On the other hand, the licensing of new installations may be delayed until they meet the full requirements.

Finance

In general, costs related to air pollution control "fall where they lie," with Land research and supervisory establishments supported from general taxation. Expenditures for modifying old plants to achieve air pollution abatement are, however, tax deductible, but not expenditures on new installations.

Trends

The Federal government's Immediate Program (Umweltschutz: Sofortprogramm) covers the following aspects of air quality conservation:

1. Introduction in the Bundestag of a basic law on all aspects of air pollution, coordinating the scattered regulations of the individual Länder;

2. A study of the requirements for a governmental research institute for air conservation;

3. Development and centralization of the measurement of air pollution;

4. Reduction of lead in gasoline; and

5. Development of new automotive emission standards for the EEC and ECE.

The Immediate Program as a whole is under the direction of the relevant Ministry assisted by ad-hoc working groups, one for each major part of the program, the membership composed of appropriate experts and scientists. The air conservation working group reports to the Bundesministerium des Innern (Federal Ministry of the Interior). It is presently defining the problems, proposing solutions, and suggesting financing and timing for the next 5 years. Coordination is maintained with the ECE and other organizations concerned with environmental conservation (such as the Swedish Statens Naturvardsverk). D.002 [illegible] [illegible]

Of the LÄnder, Nordrhein-Westfalen is predominant in air pollution control efforts, with public and medical opinion vigorously pressing for clean air. The Land Ministry of Labor and Social Affairs is concerned with obtaining information on the current situation through measurements and surveys and with identifying health hazards. A broad view is taken of the conflicting needs of natural environment and industrial economy.

Proposed Controls

A law has been proposed for the reduction of lead in gasoline first to 0.4 grams per liter and, by January 1976, to 0.15 grams per liter. The Common Market Commission in Brussels is studying the impact of such German law on possible trade restrictions among member countries.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

Since Germany is a federation of LÄnder, it is convenient to discuss first those organizations with all-Germany activities and next those with more local interests in the LÄnder. This division is not always clear-cut as some local organizations have a national impact by reason of the scale of their activities.

Federal

- The principal government initiative for air quality conservation is placed in the Bundesministerium des Innern (Federal Ministry of the Interior), D.002 where a department has been set up to deal with environmental matters. Traffic regulations are the responsibility of the Bundesministerium fÜr Verkehr (Federal Ministry of Transport). D.003

Bundesministerium für Gesundheit (Federal Ministry of Health) provides
advice to interested groups on the health aspects of pollution. Much of
their activity derives from the work of the WaBoLu--Institut für Wasser- D.008
Boden- und Lufthygiene (Federal Institute for Water, Soil and Air Hygiene).
With headquarters in Berlin and field stations in Dusseldorf and Frankfurt, D.406
this institute advises both Federal and Lander authorities on health and D.360
plant-damage aspects of pollution. Test methods are also evaluated for
use by the Gewerbeaufsichtsämter (Industrial Supervisory Administrations)
throughout Germany. In order to obtain direct experience with the problems
involved, the Federal Government plans to establish a central environmental
research institute, modelled on the LIB (Landesanstalt für Immissions und D.402
Bodennutzungsschutz) in Essen, Nordrhein-Westfalen.

Of special importance are the TÜV's (Technische Überwachungs-Vereine), organizations established about 100 years ago by boiler owners at the request of local authorities to provide test certificates for boilers. They are now found in each of the principal industrial regions: Essen, Köln, München, Stuttgart (though the one in Kassel is a Land authority, not a private organization). All TÜV's provide an expert certification service for industrial equipment and installations, and more recently they have been handling vehicle testing as well. The TÜV's obtain test results, interpret them, and make recommendations; the implications of the results are the concern of the appropriate licensing authority (e.g., Strassenverkehrsamt for vehicle tests). Such work is also undertaken for the local Gewerbeaufsichtsamt and for the various Berufsgenossenschaften, both for operational safety and related considerations and, as far as air conservation is concerned, for compliance with the requirements of Gewerbeordnung Paragraph 16. For large industrial emitters (> 100 giga-cal), which are required to make their own continuous measurements of emissions, the local TÜV gives approval of the monitoring scheme and provides an instrument calibration service. Consequently, several TÜV's engage in instrument development, evaluation programs or both, which can also include testing of pollution abatement devices (on cars, for instance). TÜV's publish annual reports describing projects and accomplishments, as well as
the organization and its financing. The Vereinigung der TÜV's (Federation D.020

of TÜV's) provides a forum for the exchange of experience and statistical information, some of which is published in its monthly journal *Technische Überwachung*.

The Berufsgenossenschaften (Industrial Safety Assurance Organizations)
play a significant part in air pollution research. By law, all industries
must support the appropriate Berufsgenossenschaft, such as the Bergbauberufs-
genossenschaft for mining. These organizations provide insurance for D.018
workers against industrial accidents and illness, covering about 85 percent
of the working population. Naturally, their interest lies in accident or
disease prevention. They cooperate closely with the Gewerbeaufsicht in D.016
each Land or large town, as well as with public health officials. They
also advise employers on matters of industrial health and accident pre-
vention. The Bergbauberufsgenossenschaft has its own Silikose-Forschungs- D.018
Institut (Silicosis Research Institute); others maintain contracts with
various institutes for research into occupational diseases. D.412

The 36 Berufsgenossenschaften for individual industries are members
of the Hauptverband der Gewerblichen Berufsgenossenschaften eV (Federation D.017
of Industrial Safety Assurance Organizations Inc.). This body itself
undertakes research on accident and disease prevention in its Staub-
forschungsinstitut (Dust Research Institute) and coordinates investigations D.017
conducted by or for the individual Berufsgenossenschaften. In this
process, abatement measures are developed and publicized.

Technological information is coordinated by the VDI (Verein Deutscher D.021-2
Ingenieure--German Engineers' Association), which plays a major role in publishing the concensus of opinion of German technologists. The VDI was founded in 1856 as a society of all kinds of engineers and other technical experts to develop guidelines (Richtlinien), which are recommended codes of practice for engineering operations or standards of manufacture or installation for equipment and instrumentation. The Richtlinien vary in "weight" or authority as the topic demands; some of the most significant deal with air pollution. While not in themselves mandatory, Richtlinien are at times used by government as bases for legislation, since they

represent the best available technical advice on what is technically possible and economically practicable. Hence, the adoption of the advisory Richtlinien into the regulatory TALuft.

The VDI has a present membership of about 60,000 individual members and 2000 corporate sponsoring members. The sponsoring membership represents industry, trade, research institutes, and Federal or Länder governments; this membership provides the major part of VDI income. Headquarters are at Düsseldorf, with 36 provincial branches throughout Germany. Its work is grouped into 28 technical divisions, one of which is the Kommission Reinhaltung der Luft (Clean Air Commission). The operating structure, procedures, membership and activities of this Commission are described in its booklet, published in October 1969. Some 39 subcommittees, composed of a wide variety of technical experts, are grouped under 6 main committees; the subcommittees deal with all aspects of air pollution technology, maintaining a strong cross section of expertise. D.021

Ideas for Richtlinien, originating widely, are screened by the Secretariat and distributed to appropriate existing expert groups or to a new group that may be created by invitation of known experts. Priorities are determined by the Board or Council in consultation with the expert group. Draft Richtlinien are published (in green) for general comment before the final version is printed (in white). The whole process may take 1 to 5 years according to the complexity of the topic and the availability of expert knowledge. Seventy-eight Richtlinien have so far appeared. Richtlinien are also being translated into English.*

Proposals for further research are made by the expert groups, with suggested locations for the work. After approval by the Research Committee of the Commission, the Secretariat finds an appropriate source of funds and contacts the recommended research institute. Research funds,

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*Authorized U.S. translations of 57 Richtlinien up to 1970 and of Staub from 1965 to date have been made under the joint sponsorship of EPA-APTIC (formerly the Division of Air Pollution) and the National Science Foundation. These are available from the National Technical Information Service (NTIS). In 1970, translation rights for future Richtlinien were licensed by VDI Verlag to Peter Peregrinus Ltd., PO Box 8, Stevenage, Hertfordshire, England.

approximating to DM 1m/Y, are obtained largely (~97 percent) from Federal
and Land Ministries; the proportion which comes from the DFG (Deutsche
Forschungs-Gemeinschaft--German Research Association) or from other D.032
industry groupings is small because most of the non-institutional research
effort is made by industry itself and not under VDI sponsorship. A list
of the current research projects sponsored by the VDI is given in the VDI
booklet with a bibliography of published reports.

The VDI-Kommission Reinhaltung der Luft also organizes air conservation symposia and educational seminars. National 3-day symposia, attracting many hundred German and foreign visitors, are held very fourth year in Düsseldorf, the most recent in October 1969. Other, smaller, symposia are held in various parts of Germany more frequently. Educational seminars are organized by the Educational Branch of the VDI for the training of field engineers in all aspects of engineering, air pollution control included.

The VDI has an extensive documentation center and open library from which it prepares "Selecta," a new world-wide monthly abstract of significant air pollution articles (published by VDI-Verlag). Another periodical covering all aspects of air pollution control is the monthly journal Staub-Reinhaltung der Luft (also published by VDI-Verlag).*

A second VDI commission deals with Noise Reduction (VDI-Kommission D.022
Lärmminderung). Rather smaller but organized in broadly the same way as
the Clean Air Commission, this Commission considers all aspects of industrial,
domestic and traffic noise, and likewise prepares Richtlinien. Direct and
indirect subsidies in 1968 totalled DM 220,000. Research projects related
to noise problems were initiated in 1968, and some two dozen are now in
hand or being formulated.

The Deutsche Forschungsgemeinschaft (DFG--German Research Association) D.032+
is an important sponsoring agency for industrial funds. With several
coordinating commissions (for instance, the Kommission zur Erforschung der D.032
Wirkungen Luftverunreinigender Stoffe--Commission for Investigation of the

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*See previous footnote.

Effects of Air Pollution), the DFG sponsors various air pollution research programs, using money made available by industry, especially funds which, for tax reasons, could not easily be given directly. A significant project supported in this way and carried out by different institutes (mainly academic) in various parts of Germany, is a large permanent survey of a wide range of air pollutants. Further money goes to the Fraunhofer Society for the support of yet other research. D.030-1

The resources of German industry are combined in still another organization, the Bundesverband der Deutschen Industrie BDI (Union of German Industry). This body has a group to study the economic and other implications o pollution control regulations and to make recommendations to government. D.035

A related organization, of considerable practical importance, is the IWL--Institut für gewerbliche Wasserwirtschaft und Luftreinhaltung eV (Institute for Industrial Water Economy and Air Conservation Inc.). Originally established by the BDI in 1956 as its technical advisory group (with particular emphasis on water management), the IWL is now a separate corporation which conducts surveys and prepares expert opinions for both private and public groups, including government departments. The IWL's work is similar to that of the TÜVe but is concentrated more on chemical emissions, while the TÜVe concentrate on combustion emissions. By reason of its private status, the IWL can undertake confidential work for private industry. It publishes the important monthly journal *Wasser, Luft und Betrieb*. D.036

Beyond these general industrial groupings, many trade associations have study groups concerned with aspects of air pollution closely related to their own activities. Most are concerned mainly with commercial questions, but among those with technical studies may be mentioned:

Verein Deutsche Eisenhüttenleute (Association of German Iron Works Experts) with their Betriebsforschungsanstalt (Industrial Research Establishment), which coordinates air pollution investigations by the iron and steel industry and publishes in *Stahl und Eisen*. D.037

Forschungsinstitut der Zementindustrie (Research Institute of the Cement Industry). D.044

Bergbau-Forschung GmbH (Mining Research Co. Ltd.) which studies flue gas desulfurization processes. D.085

Such organizations are supported by numerous individual companies, many with their own pollution investigatory or control activities. Many of the activities of these individual companies are, however, coordinated by the trade associations or through the centrally important VDI.

Länder

Länder range from large and industrial (e.g., Nordrhein-Westfalen)
to the mainly agricultural (Schleswig Holstein) or the "city-state" (such
as the Land of Bremen, which is virtually the municipal area of the town
of that name). Such variations are reflected in the extent of the air
pollution problems that they face and also in the structure of the local
control activity. Generally, an appropriate Land Ministry is responsible
at government level, and this agency is assisted by a Land institute or
research establishment, which conducts the practical work of survey and
coordination. Enforcement is in the hands of the local Gewerbeaufsichtsamt D.016
(Industrial Inspectorate) for industrial conditions and is assisted in
several Länder by the testing and measuring work of the Technische Überwachungsvereine
(TÜVe--Technical Supervision Associations), which enjoy
a quasi-official position. The central Deutsche Wetterdienst (German D.003
Weather Service) often provides, through its local offices, meteorological
information for smog alert warning systems. Finally, each Land gains a
supporting service of research and information from the many institutes
at Universities and Technische-Hochschulen (Technical High Schools),
carrying out studies of all aspects of pollution, including causes,
effects and abatement. Most of these institutes are supported by grants
from local and federal government, from the VDI, or from the DFG and its
affiliates.

The relevant ministries in the Länder coordinate their policies
through the Länder Ausschuss für Immissionsschutz (Länder Committee for D.005
Protection against Emissions). At present under the chairmanship of
the Labor and Social Affairs Ministry of Nordrhein-Westfalen, this D.401
committee has three subcommittees for technical questions, surveying and
monitoring, and legal aspects. Activities include the preparation of
VDI Richtlinien for use by the Government as regulations.

Berlin

In April 1971, the Berlin Land government designated a Senator with D.101
responsibility for environmental matters and the development of regulations
in the context of the Federal conservation program. Departmental organization is now proceeding.

A number of university institutes are active in air pollution work.
Especially significant is the Institut für Theoretische Meteorologie der D.105
Freie Universität (Institute of Theoretical Meteorology at the Free
University), where Professor Fortak has conducted mathematical studies
of atmospheric dispersion, with particular reference to measurements in
Bremen.

Hamburg

Environmental conservation activity in the Land and City of Hamburg
centers on the Untersuchungsanstalt für Städtehygiene (Municipal Hygiene D.201
Evaluation Establishment). This large organization represents one of the
four functions of the Hamburger Gesundheitsbehörde (Health Authority),
which is a department of Hamburg's Senat des Innerns (Senate of the Interior),
a group that is equivalent to a Ministry in other Länder. The Anstalt
is divided into five departments concerned respectively with water quality,
sewage, occupational hygiene (medical matters, not air pollution), ambient
radioactivity, and air and habitation hygiene. It is this last, Abteilung
für Luft- und Wohnungshygiene, which is most active in the field of air
pollution. Under its department head, Dr. K. Gräfe, regular surveys of
sulfur dioxide and smoke are made in the Hamburg area, with occassional
measurements of other pollutants as required for the application of the

building regulations by the Land authorities, or for special research.
Calculations of necessary stack heights are made (using the VDI Richtlinie),
as well as comments on proposed industrial and urban developments from an
air conservation standpoint. Liaison is maintained with Hamburg University's
Staatsinstitut für Angewandte Botanik (State Institute for Applied Botany), D.203
whose Dr. Garber has written an illustrated book on the effects of air
pollutants on plants.

Schleswig Holstein

There is little specific air pollution control activity in this pre-
dominantly agricultural Land. The responsible TÜV (TÜV Norddeutschland) D.232
is of course active as necessary but is also able to cover large parts
of the neighboring Länder. The University at Kiel operates one of the D.233
DFG and OECD "background" monitoring stations.

Bremen

This small Land comprises the ancient Hanseatic town and port of
Bremen. As in all Länder, an Immissionschutzgesetzt (environmental con-
servation law) has been adopted, but the Land authorities undertake no
special air pollution research. However, Professor Fortak of the University D.105
of Berlin's Meteorological Institute used Bremen as a model for his theory
of urban dispersion of air pollutants, the data being provided by the Land
authorities.

Niedersachsen (Lower Saxony)

The Land of Niedersachsen has well known technical institutes working
in the field of air pollution control, and Volkswagen (Volkswagenwerke AG), D.31[illegible]
with headquarters here, conducts extensive research on ways of reducing
vehicle emissions. The institutes include the Institut für Kolbenmaschinen D.306
der Tech. U. Braunschweig (Institute for Piston Engines at the Technical
University of Brunswick) and the Tech. U. Clausthal, where Professor D.307
Oelert has succeeded Professor Luther. Studies of the effects of air
pollution on animal health are carried out at institutes of the Technische D.303
Hochschule at Hannover. D.304

Hessen

The Land of Hessen is largely mountain and forest areas, but there
are, in the south, a number of significant towns, of which Frankfurt is
undoubtedly the most important. Land activity in air pollution control
is not extensive, though a number of measuring stations are operated by
the official Mess-stelle (Inspection Station) at Kassel, which in this D.353
Land plays the role undertaken by the TÜVe in other Länder.

Several Hessen research institutes are significant in this field,
and the Institut für Meteorologie und Geophysik (Institute of Meteorology D.355
and Geophysics) at Frankfurt is internationally known. Under the leader-
ship of Professor Hans Georgii, the Institute conducts extensive programs
with support from Federal, Land and University funds. It cooperates with
the WaBoLu, DFG, the Technische Hochschule Darmstadt, and various (mainly D.008
meteorological) groups in other countries. At the TH Darmstadt, Professors D.033
Wippermann and Klug have long been involved in the development of disper- D.356
ion theory and its inclusion in the relevant VDI Richtlinie. Work on
industrial emissions by Farbwerke Hoechst at one time included studies D.357
of the effects of pollutants on vegetation but this function has now been
moved to a new institute close by, the Laboratorium für Untersuchungen D.360
von Vegetationsschäden (Vegetation Damage Research Laboratory). This
facility is basically an outstation of the WaBoLu, but is also supported D.008
by Frankfurt Municipality and by Hoechst.

Nordrhein-Westfalen (Northrhine Westphalia)

The government of this large and highly industrialized Land is very
active in air pollution measurement and control. Responsibility for the
control of industrial air pollution, and also for the coordination of the
other Land Ministries concerned with air pollution is vested with the Arbeits- D.401
und Sozialministerium (Ministry of Labor and Social Affairs). Six Regierungs-
präsidenten (governmental districts), which simultaneously function as
licensing authorities for the most important industrial plants, form the
middle administrative level. At local level, air pollution control in the
industrial field is supervised by 23 Gewerbeaufsichtsämter (industrial
inspection offices), which, in Nordrhein-Westfalen, report to the Arbeits-

und Sozial-ministerium (as also do the Bergbauaufsichtsämter for mines supervision). With some 500 engineers and technicians, the Gewerbeaufsicht is responsible for accident prevention and industrial hygiene and also, in recent years, for matters involving air pollution control.

Technical information on air pollution is provided by the Landesanstalt
für Immissions und Bodennutzungsschutz (LIB--Land Institute for the Pro- D.402
tection of Air and Soil), which is also the central office for the Smog
Alert System in the Ruhrgebeit (Ruhr Area). Several other institutes have
been accepted by the Land Ministry for carrying out emission measurements
in various industrial plants. The Landesanstalt (or LIB) of Nordrhein-
Westfalen has a staff of 450 people and extensive laboratories near Essen;
it is the largest such organization in Germany, with responsibility for
practical surveying and research within the whole area of the Land. Six
departments are concerned respectively with: (1) calculations, documentation
and publication (in many journals as well as the LIB's own Schriftenreihe),
(2) measurement techniques and surveillance of pollution (including both
general and specific surveys), (3) techniques for pollution abatement,
(4) effects of pollutants on plants and materials, (5) water and soil
pollution, and (6) noise and vibration.

The air pollution control activities in Nordrhein-Westfalen and the organization and work of the LIB are excellently described and illustrated in the "Blue Book" presented at the October 1969 Clean Air Congress at Düsseldorf.

The Rheinisch-Westfälischer-TÜV (Technical Supervisory Association) D.404
at Essen is one of the most active of the TÜV's in air pollution control.
Activities include surveillance of industrial operations to ensure compliance
with the requirements of the operating license, the Gewerbeordnung and
the TALuft. The TÜV also keeps abreast of the latest measurement and
abatement techniques.

Several industries in Nordrhein-Westfalen are active in air pollution.
For example, the Ruhrkohlen-Beratung GmbH (Ruhr Coal Consulting Co. Ltd.) D.407

undertakes research into low-smoke combustion in domestic stoves for application in the coal consuming area of the Ruhr. Likewise, the Farbenfabriken Bayer AG ("Bayer") conducts surveys of sulfur dioxide D.423
emissions and was involved in the design of the Picoflux monitoring instrument. There is, however, no clear demarkation between Land activity and activity on a Federal scale, since many of these firms and associations support national bodies such as the VDI, BDI, and DFG. D.021
D.035
D.032

Rheinland-Pfalz (Rhineland Palatinate)

In contrast to its heavily industrialized neighbor across the Rhine, this Land has few air quality conservation problems and the level of control activity is correspondingly low. At the University of Mainz, however, the Institut für Augewandte Physik (Institute of D.503
Applied Physics) under Professor Junge conducts significant work on the atmospheric chemistry of pollutants.

Saarland

There is as yet little significant air control activity in this Land.

Baden-Würtemberg

Air pollution control is the responsibility of the Arbeits- und D.701
Sozialministerium (Ministry of Labor and Social Affairs). Practical survey work is carried out by the Landesinstitut für Arbeitsschutz und D.702
Arbeitsmedizin (Land Institute for Occupational Hygiene and Medicine) at Karlsruhe with the assistance of the Gewerbeaufsichtsamt (Trade D.718
Inspectorate) at Mannheim. TÜV support is active in Mannheim and D.703-4
Stuttgart.

As forestry and agriculture are significant commercial activities in Baden-Würtemberg, research stations are concerned with the effects of air pollutants on vegetation. Institutes involved are the Staatliche Landwirtschaftliche Versuchs-anstalt (State Agricultural Research Station) D.705
at Karlsruhe and the Baden-Württembergische Forstliche Versuchsanstalt D.706

(B-W Forestry Research Station) at Freiburg. University research is particularly strong in Baden-Württemberg and institutes are active at Heidelberg, at Karlsruhe and at Stuttgart, where the automobile manufacturing firms of Daimler-Benz, Porsche, and AUDI-NSU are involved in this type of work.

Bayern (Bavaria)

The largest of the Länder, Bayern is still characterized mainly by agricultural interests and extensive forests. Industry includes textiles, vehicle manufacture, and oil refining, and is located around Munich, Augsburg, Nuremberg and Ingolstadt.

The Bayerische Staatsministerium des Innern (Bavarian State Ministry D.802
of the Interior) coordinates air pollution control activities and research
programs, many supported by funds from other Ministries, such as the Ministry
of Wirtschaft und Verkehr (Economics and Transport). Survey measurements D.801
are made by the Landesgewerbeanstalt (Industrial Testing Establishment), D.803
by the Munich Referat für Kreiseverwaltung (Commission for Local Admin- D.808
istration), and by Bayernwerke AG--this last on behalf of the whole indus- D.814
trial area of Ingolstadt.

The TÜV Bayern eV (Technical Supervision Association Inc. of Bavaria) D.811
is large and well organized to investigate problems of industrial hazard or
public nuisance. It also conducts studies of vehicle emissions.

Other work on vehicle emissions, besides that carried out by MAN and D.832-3
BMW, is found at the Physikalisch-chemisches Institut der Universität München D.821
(Munich University Physico-chemical Institute), at the Institut für Verbren- D.829
nungskraftmaschinen der T/H München (Munich Polytechnic Combustion Engine
Institute), and at the independent Institut für Motorenbau (Institute for D.820
Engine Construction). Institutes at other universities are concerned with
the effects of pollution on plants and animals. D.823-4

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]PARLAMENTARISCHE ARBEIT[illegible]EMEINSCHAFT

Interparliamentary working group

ACRONYM: I F A

See also

ADDRESS [illegible] BONN,
[illegible].
(Postfach 11[illegible]).

Tel. [illegible]

AFFIL

Title	PERSONNEL	Function
	M. [illegible] ([illegible])	Chairman
[illegible]	H. [illegible] ([illegible])	Vice-chairman
	W. Merten ([illegible])	Treasurer
	[illegible]	[illegible]retary

AP aims and actions

Comments

[illegible] and initiates all [illegible] [illegible] party group [illegible] ervation measures, [illegible] experts from industry and [illegible] and representatives from [illegible] and land-[illegible].
[illegible] ns [illegible] desired [illegible] current problems.

[illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.7 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible] of the Interior, [illegible] Conservation [illegible].

ACRONYM: [illegible]

See also

ADDRESS [illegible],
[illegible]

Tel. [illegible]

AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]
[illegible]	A. [illegible]	[illegible]
[illegible]	A. [illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

AP aims and actions

Comments

[illegible]

[illegible], Anstalt [illegible]

D 003 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BUNDESMINISTERIUM FÜR VERKEHR
Federal Ministry of Transport

ACRONYM: BMV

See also

ADDRESS: 5300 BONN,
Sternstrasse 100.

Tel: (02221) 72.1

AFFIL

Title	PERSONNEL	Function
Min.Rat.	Kappel	A4 - environment & safety
	Hoog	A8 - technical developments
Reg.Dir.	Bonk	A[illegible] - international contacts
Reg.Dir.	Jungblud	STV1 - coordination
Min.Rat.	Belke	STV7 - technical & legal

AP aims and actions:

Responsible for preparing regulations controlling emissions from vehicles and environmental problems associated with traffic.
Supports and coordinates research into new technical developments for reduced vehicle emissions (such as electric cars).
Provides expert knowledge to Government.

Comments:

Two main divisions: general and traffic.

D.003 Bundesministerium für Verkehr 4.71

D 004 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BUNDESGESUNDHEITSAMT
Federal Health Office

ACRONYM

See also D.007 D.[illegible]

ADDRESS: 5320 BAD GODESBERG,
Postfach 4001.

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	W. [illegible]	
	G. von Nieding	
	M. Wagner	

AP aims and actions

Coordinates and advises on health effects of AP. Advises other Ministries when regulations are prepared.

Comments

D.004 Bundesgesundheitsamt 4.71

D 005 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME LÄNDER AUSSCHUSS FÜR IMMISSIONSSCHUTZ
Länder Committee for Protection against Immissions

ACRONYM:
See also

ADDRESS: c/o Arbeits- und Sozialministerium NW,
4000 DÜSSELDORF 1,
Horionplatz 1. [illegible]
Tel (02 11) 83-[illegible]
AFFIL

Title	PERSONNEL	Function
Min.Dir.	K. [illegible]	Chairman (N-R Westfalen)

AP aims and actions
[illegible] of Länder views and information on air quality matters, especially [illegible]

Comments
Members are representatives of the appropriate Ministries in each Land. Divided into three sub-committees: technical, surveys, legal.

D.005 Länder Ausschuss für Immissionsschutz 4.71

D 007 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME INSTITUT FÜR SOZIALE MEDIZIN UND EPIDEMIOLOGIE
Institute for Social Medicine and Epidemiology

ACRONYM:
See also

ADDRESS: [illegible],
[illegible].
Tel [illegible]
AFFIL Bundesgesundheitsamt
(Federal Health Office).

Title	PERSONNEL	Function
Prof. Dr.	[illegible]	Director

AP aims and actions
Epidemiological studies of the effects of AP.

Comments
Set up in 19[illegible].

D.007 Institut für Soziale Medizin und Epidemiologie 4.[illegible]

D | 008 NAT | A B C D E F | 01 02 03 04 05 11 12 13 14 15 | 21 22 23 24 25 | 31 32 33 34 35 | L M S | 1 2 3 | 4.71 | S 1
Country | No | Type | Functions | Sources | Effects | Controls | Remedies | Size | Status | Date

NAME: INSTITUT FÜR WASSER- BODEN- UND LUFTHYGIENE
Institute for Water, Soil and Air Hygiene

ACRONYM: WaBoLu
See also D.406, 010, 014, 355

ADDRESS: 1000 BERLIN 33,
Corrensplatz 1.

Tel: (0311) 76.98.1

AFFIL: Bundesgesundheitsamt
(Federal Health Office).

Title	PERSONNEL	Function
Prof.Dr.	E. Lahmann	director AP Technical Group.
-	(not yet named)	" AP Med/Biol. Group.
	total [illegible] in Dept.	

AP aims and actions:
Research to provide Fed. Govt. with basis for AP programme; advice to Fed. and Länder govts.
Studies of traffic pollution levels in streets (with D. Frankfurt D.355): comparison with international data.
Med/biol. effects of exhaust gases (with HAK D.010 and Krebsforschungszentrum D.014).
Studies of the effects of SO_2 & Cl on plants (D.3[illegible]).
Development of standard methods for automatic AP monitoring: apparatus for continuous measurement of emiss'ns.
Appeal adviser in litigation.

Comments:
Supports work of VDI.
Outstations at Düsseldorf (D.355) & at Hoechst (D.360).
Research work published in "Schriftenreihe der WaBoLu".

D.008 Institut für Wasser- Boden- und Lufthygiene 4.71

D | 009 NAT | A B C D E F | 01 02 03 04 05 11 12 13 14 15 | 21 22 23 24 25 | 31 32 33 34 35 | L M S | 1 2 3 | 12.69 | S 1
Country | No | Type | Functions | Sources | Effects | Controls | Remedies | Size | Status | Date

NAME: ZENTRALAMT DES DEUTSCHEN WETTERDIENSTES
Central Office of the German Meteorological Servi

ACRONYM:
See also D.407

ADDRESS: 605 OFFENBACH (MAIN),
Frankfurter Str. 135.

Tel:

AFFIL: regional met. offices.

Title	PERSONNEL	Function
Dr.	Erich Süssenberger	president
Ober-reg.-rat	W. Hussla[illegible]	resp. for AP aspects.

AP aims and actions:
Atmospheric dispersion and exchange processes.
Met. problems in the (regional) smog-warning services.
Meteorology of site surveys (for new industrial plant &c).
Studies of medico-meteorology problems.
Monitoring of radioactivity in atmosphere.

Comments:
Member of VDI Komm. R. der Luft.

D.009 Zentralamt des Deutschen Wetterdienstes 12.69

A B C D E F [illegible] M S 1 2 3 4

Status	Date

NAME [illegible]

ACRONYM [illegible]

ADDRESS [illegible]

Title PERSONNEL Function

AFFIL

Programs and actions:

[illegible]

A B C D E F [illegible]

NAME [illegible]

ACRONYM

ADDRESS [illegible]

Function

AFFIL

Programs and actions:

[illegible]

D	012	NAT	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12 69		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		

NAME: INST. FÜR NICHTPARASITÄRE PFLANZENKRANKHEITEN

Inst. for Non-parasitic Plant Diseases

ACRONYM:

See also

ADDRESS 1000 BERLIN 33,
Königin-Luise-Str. 19.

Tel

AFFIL Biolog. Bundesanstalt für Land- und Forstwirtschaft.

Title	PERSONNEL	Function
Dr.	H-O. Leh	
Prof.Dr.	A. Kloke	
Dr.	G. Schönhard	

AP aims and actions:
Studies of Pb depositions on crops (from vehicles).

Comments:
Member of VDI Komm. R. der Luft.

D.012 Inst. für Nichtparasitär Pflanzenkrankheiten 12.69

D	012	NAT	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3			S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		

NAME: BIOLOGISCHE BUNDESANSTALT FÜR LAND- UND FORSTWIRTSCHAFT

Federal Biological Establishment for Agric. and Forestry

ACRONYM

See also

ADDRESS 3300 BRAUNSCHWEIG,
Messeweg 11.

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible]	Inst. for Botany

AP aims and actions:

Comments:
Member of VDI Komm. R. der Luft.

D.012 Biologische Bundesanstalt für Land- und Forstwirtschaft

D 014 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DEUTSCHES KREBSFORSCHUNGSZENTRUM

German Cancer Research Centre

ACRONYM:

See also D.008 D.010

ADDRESS 69 HEIDELBERG,
Berliner Strasse 27.

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	H. Immich	Inst. for Documentation,
Prof.Dr.	G. Wagner	Information & Statistics
Prof.Dr.	D. Schmähl	Inst. for Exptl. Tumours...

AP aims and actions

Joint work with Battelle (D.008) and HAM (D.010) on carcinogenic materials in vehicle exhaust gases and condensates.

Comments

Member of VDI Komm. R. der Luft.

D.014 Deutsches Krebsforschungszentrum 4.71

D 015 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME BUNDESINSTITUT FÜR ARBEITSSCHUTZ

Federal Institute for Labour Protection

ACRONYM

See also

ADDRESS [illegible] KOBLENZ

Tel

AFFIL Bundesgesundheitsministerium

Title	PERSONNEL	Function
Dr. Dr.	[illegible]	

AP aims and actions

Environmental hygiene.
Breathing problems.

Comments

D.015 Bundesinstitut für Arbeitsschutz 4.71

D 016 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: GEWERBEAUFSICHT
Industry Supervision Administration

ACRONYM: G A A
See also D.017 D.020

ADDRESS: Länder capitals and principal towns.

Tel:

AFFIL: Länder governments (Arbeits- or Innen-ministerium).

Title	PERSONNEL	Function

AP aims and actions:

Responsible for the application of the Gewerbeordnungen (derived from Fed. gov't, but applied by authority of the Land gov't.) to ensure safety of whole factory &c.
Can delegate part of supervision to local TÜV (see D.020) and make use of TÜV for expertise (eg. in calculating stack heights). Also uses Berufsgenossenschaft ... (see D.017) for safety supervision of work areas.

Comments:

One central office in each Land as a department of Land gov't., with branches in principal towns.

D.016 Gewerbeaufsicht 12.69

D 017 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: HAUPTVERBAND DER GEWERBLICHEN BERUFSGENOSSENSCHAFTEN eV
Federation of Industrial Safety Assurance Organisations Inc.

ACRONYM:
See also D.018

ADDRESS: 5300 BONN,
Langwartweg 103.

Tel: 02221 1091

AFFIL: The 36 Berufsgenossenschaften for individual industries (see text).

Title	PERSONNEL	Function
Dr.	E. Wickenhagen	general secretary
Dipl.Ing.	Buss	accident prevention
Dr. Ing	D. Hasenclever	Staubforschungsinstitut dir.
	W. Coenen	" physics
	G. Kühnen	" chemistry
	L. Engels	" technology
Dr.	H. Riediger	" basic research
Dr.	A. Schütz	editor of 'Staub'

AP aims and actions:

Undertakes research on accident and industrial disease prevention, and coordinates research of individual Berufsgenossenschaften (eg. Silicosis Unit of Bergbau).
Provide advice and expert opinions; cooperate closely with Gewerbeaufsicht (D.016) and public health depts.
Has own Staubforschungsinstitut (Dust Res. Inst.) for studies of dust effects and disease prevention.
Abatement measures developed and published.
Publishes: 'Staub - Reinhaltung der Luft' - also available in English.

Comments:

Contribute to work of VDI Kommission Reinhaltung der Luft (D.[illegible]) and to DIN WG's (D.[illegible]).

D.017 Hauptverband der Gewerblichen Berufsgenossenschaften eV 10.70

D 018 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S 7

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME BERGBAU-BERUFSGENOSSENSCHAFT, Silikose Forschungsinstitut
Mines Safety Assurance, Silicosis Research Institute

ACRONYM

See also D.017 D.410 D.412

ADDRESS 4630 BOCHUM,
Hunscheidstrasse 12.

Tel

AFFIL Hauptverband der Gew. Berufsgenossenschaften (D.017).

Title	PERSONNEL	Function
Dr.	Bauer	director of Tech.Dept.
Dr.	W. Walkenhorst	
Dr.	Bruckmann	
Dr.	Zebel	
Ir.	Baumann	
Prof.Dr	W.T. Ulmer	director Med. Dept.

AP aims and actions

Research on industrial disease prevention in mining, with particular reference to silicosis.

Comments

Cooperates closely with work of Hauptverband (D.017).
Represented on VDI Komm. R. der Luft (D.0[illegible]1).

D.018 Bergbau-Berufsgenossenschaft, Silikose Forschungsinstitut. 10.70

D 020 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S 7

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME VEREINIGUNG DER TECHNISCHEN ÜBERWACHUNGS-VEREINE eV
Federation of Technical Supervision Associations Inc.

ACRONYM VdTÜV

See also

ADDRESS 4300 ESSEN
[illegible]strasse 17.

Tel

AFFIL All regional TÜVs.

Title	PERSONNEL	Function
Dir.	[illegible] Wiesenack	
Oberingr.	G. Über	
Oberingr.	H. Kranz	

AP aims and actions

Publishes monthly journal (by VDI-Verlag): "Technische Überwachung"

Comments

Member of VDI Komm. R. der Luft.

D.020 Vereinigung der Technischen Überwachungs-Vereine eV 12.69

D 021 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME VEREIN DEUTSCHER INGENIEURE: Kommission Reinhaltung der Luft

Association of German Engineers: Commission for Clean Air

ACRONYM VDI (Luft)

See also D.022

ADDRESS 4000 DÜSSELDORF,
Graf-Recke Strasse 84.

Tel 0211 - 62141

AFFIL

Title	PERSONNEL	Function
Min.Dir.	H. Stephany	president (of VDI & Komm.)
Dipl.Ing.	J. Krämer	head of secretariat (Komm.)

Full details of the Kommission, its organisation and staffing, and the work of its expert cttees, are given in the Status Booklet of the Kommission.

AP aims and actions

Determination of the technology of air conservation, esp. as regards emission abatement and equipment for gas cleaning; definition of limits for the discharge of dust and gases.
Research into the atmos. dispersion of pollutants - principally for the calculation of stack heights.
Research into effects of pollutants on humans, animals, plants and valuables; detn. of air quality limits.
Development of standard procedures for the measurement of pollutant emissions and immissions.
Initiation and coordination of appropriate research work.

Comments

Is a collection of expert cttees representing the best engineering knowledge in D. Individual members and sponsoring firms.
Publishes "Richtlinie" (recommended codes of practice), some of which are incorporated into regulations.
Has also published "VDI-Handbuch" on all aspects of AP.
Has comprehensive AP documentation; publishes "Selecta" AP abstracts and "Staub-Reinhaltung der Luft".

D.021 Verein Deutscher Ingenieure: Komm. Reinhaltung der Luft (VDI) 12.69

D 022 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME VEREIN DEUTSCHER INGENIEURE: Kommission Lärmminderung

Association of German Engineers: Comm. for Noise Reduction

ACRONYM VDI (Lärm)

See also D.021

ADDRESS 4000 DÜSSELDORF,
Graf-Recke Strasse 84.

Tel 0211 - 62141

AFFIL

Title	PERSONNEL	Function
Dr.Ing.	[illegible] Hansen	president of Kommission
Dipl.Ing.	[illegible]	head of secretariat

Details of the Kommission, its organisation and the work of its expert cttees, are given in the 1969 Annual Report.

AP aims and actions

Studies of the incidence, effects and reduction of industrial, traffic and domestic noise.
Unification of measuring techniques.
Initiation and coordination of appropriate research.
Publication of "Richtlinie" (recommended codes of practice).

Comments

Is a collection of expert cttees representing the best engineering knowledge in D. Individual members and sponsoring firms.
Has comprehensive documentation.

D.022 Verein Deutscher Ingenieure: Kommission Lärmminderung 12.69

D 030 ASN A B C D E F 01 02 03 04 05 11 1 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: FRAUNHOFER-GES. ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG eV
Fraunhofer Society for the Furtherance of Applied Research

ACRONYM:

See also D.030-1 D.032

ADDRESS [illegible] MÜNCHEN,
Prinzregentenstrasse [illegible].

Tel

AFFIL

Title PERSONNEL Function

AP aims and actions:
Sponsoring research at various research institutes.

Comments:
Much of money comes from DFG (D.032).
and from Bayerisch. Staatsmin. für Wirtschaft und Verkehr (D.F01).

D.[illegible] Fraunhofer Gesellschaft 12.69

D 031 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUT FÜR TECHNISCHE PHYSIK der Fraunhofer Gesellschaft
Institute of Technical Physics of the Fraunhofer Society

ACRONYM: ITP

See also D.030 D.[illegible]

ADDRESS [illegible] STUTTGART-[illegible],
[illegible] 30.

Tel [illegible]

AFFIL Fraunhofer Gesellschaft zur
Förderung der angewandten
Forschung (D.029).

Title PERSONNEL Function
Prof.Dr W. [illegible]
Prof.Dr H. [illegible]

AP aims and actions:
Studies on production efficiency and analysis of
[illegible]

Comments:
Member of VDI Komm. R. der Luft.
Environmental work transferred to
LIF Essen (D.40[illegible]).

D.[illegible] Institut für technische Physik der Fraunhofer Gesellschaft 10.70

D 031 ASN ~~A~~ B C D E F 01 02 03 04 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 12.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUT FÜR AEROBIOLOGIE der Fraunhofer Gesellschaft
Institue of Atmospheric Biology of the Fraunhofer Society

ACRONYM:

See also D.029 D.030

ADDRESS 5949 GRAFSCHAFT Ü/SMALLENBERG,
SAUERLAND.

Tel:

AFFIL: Fraunhofer Gesellschaft zur
Förderung der angewandten
Forschung (D.029).

Title	PERSONNEL	Function
Dr.	K. Bisa	director

AP aims and actions:

Aerobiology: toxicology of aerosols.
Industrial hygiene.
The application of filtration techniques to prevention
of AP in closed environments.

Comments:

D.031 Institut für Aerobiologie der Fraunhofer Gesellschaft 12.69

D 032 ASN A B C D E F 01 02 03 04 05 ~~11~~ ~~12~~ ~~13~~ ~~14~~ 15 21 22 23 ~~24~~ 25 31 32 33 34 35 L ~~M~~ S 1 ~~2~~ 3 10.70 S ~~T~~
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME * DFG : Komm. zur Erforschung der Wirkungen luftverunrein'r St
DFG : Comm. for Investigating Effects of Air Pollutants

ACRONYM DFG

See also D.033 D.034

ADDRESS 5320 BAD GODESBERG,
Kennedy-Allee 40.
lacs at: 6800 MANNHEIM,
Augusta-Anlage 18.

Tel 022.293 70.11

AFFIL

Title	PERSONNEL	Function
Prof.Dr	J. Wüstenberg	chairman
Dip.Phys	A. Köhler	

AP aims and actions

Organises large regional survey project with permanent measuring stations for wide range of pollutants - gaseous (SO_2 CO NO_x F-cpds), particulates, radioactivity, biological (bacteria, spores, pollen, etc). The DFG sponsors the survey by making Industry money available to suitable Research Institutes.

Comments

* Deutsche Forschungs-Gemeinschaft :
German Research Association.

Member of VDI Komm. R. der Luft.
Responsibility for maintaining
the survey being taken over by
the B-min des Innerm (D.00 .

D.032 DFG: Komm. zur Erforschung der Wirkungen luftverunreinigender Stoffe 10.70

D 033 ASM A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 ✓ ✓

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME * DFG : Komm. zur Prüfung gesundheitsschädlicher Arbeitsstoffe

DFG : Comm. for Investigating Noxious Working Materials

ACRONYM: DFG

See also D.032 D.034

ADDRESS 5300 BAD GODESBERG,
Kennedy-Allee 40.

Tel: (02229) 70.11

AFFIL:

Title	PERSONNEL	Function
Dr.	de Haar	for AP

Members of Commission include medical and hygiene experts and representatives from industry and the Berufsgenossenschaften (D.017).

AP aims and actions

Inter alia, develops MAC - Werte ø (which are adopted and published by the Bundesmin. für Arbeit... and are reprinted by others, incl. the Berufsgenossenschaften).

ø MAK-Werte - Maximale Arbeitsplatzkonzentrationen gesundheitsschädlicher Stoffe. (1966 values published in 'Arbeitsschutz' 8/1966, p.[illegible].)

Comments

* Deutsche Forschungs-Gemeinschaft : German Research Association.

D.033 DFG : Komm. zur Prüfung gesundheitsschädlicher Arbeitsstoffe 12.[illegible]

D 034 ASM A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME DFG: Kommission für Verbrennungsmaschinen

German Res. Assn: Commission for Internal Combustion Engines

ACRONYM DFG

See also D.032 D.033

ADDRESS 5300 BAD GODESBERG,
Kennedy-Allee 40.

Tel: (02229) 70.11

AFFIL:

Title	PERSONNEL	Function

AP aims and actions

Comments

D.034 DFG: Kommission für Verbrennungsmaschinen

D 035 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BUND DER DEUTSCHEN INDUSTRIE

Union of German Industry

ACRONYM: B D I

See also D.036

ADDRESS 5000 KÖLN 51,
Oberländer Ufer 84.

Tel (0221) 37.08.1

AFFIL Most German Industrial Assns.

Title	PERSONNEL	Function
Dr.	W. Gässler	Dept. for Envtl. Affairs
Dr.	W. Heimsoeth	Cttee. for Ind. Immissions
Dr.	L. Vellguth	Industry & Envt. Commission

AP aims and actions

Studies implications, esp. economic, of proposed legislation and makes comments from industrial viewpoint to [illegible] concerned.

Annual meetings. For [illegible] of industrial [illegible].

Comments

Dept. of Environmental Affairs has 3 committees: for Waste Water; Industrial Immissions; and Waste Disposal. Industry & Environment Commission comprises boards of these 3.

Membership from industrial associations.

Well-represented on VDI (D.0[illegible]).

Initiated IUL (D.036) in 196[illegible].

[illegible] 4.71

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.7[illegible] S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible] Industrial [illegible] and Air Conservation [illegible]

ACRONYM [illegible]

See also D.[illegible]

ADDRESS [illegible]

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

03 04 05 14 21 22 23 24 31 32 33 34 35 L M S 1 2 3 12.69 S X

Effects | Controls | Remedies | Size | Status | Date

ACRONYM: VDEh

See also

PERSONNEL	Function
[illegible]	[illegible] dir. of Assn.
[illegible]	[illegible] secretary
[illegible]	Director of Anstalt

ACRONYM

See

PERSONNEL	Function

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
D	030	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	4.71	S	T

NAME VERBAND DER AUTOMOBIL-INDUSTRIE eV
Automobile Industry Association Inc.

ACRONYM V D A
See also

ADDRESS
6000 FRANKFURT/Main,
Westendstrasse 61.
(Postfach 4040).

Tel (0611) 74.30.46

AFFIL. German automobile manuf'rs.

Title	PERSONNEL	Function
Dr.	von Brunn	president
Dr.	Brenken	gen. sec. (tech).
Dipl.Ing.D.	Matthes	head of technical dept.

AP aims and actions
Development and presentation of automobile manufacturers' opinions on AP matters, especially technical aspects.

Comments
Has WG for AP matters.
Member of VDI Komm. R. der Luft.

D.030 V D A 4.71

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
D	040	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	4.71	S	T

NAME MINERALÖL WIRTSCHAFTSVERBAND eV
Petroleum Industry Association Inc.

ACRONYM [illegible]
See also D.0[illegible]

ADDRESS
2000 HAMBURG 1,
Steindamm [illegible]

Tel [illegible]

AFFIL. Association of Petroleum Ind'y
in W. Germany

Title	PERSONNEL	Function
Dr.	H. [illegible]	chairman
Dr.	W. [illegible]	head of [illegible]

AP aims and actions
Development and presentation of oil industry opinions on AP matters, especially economic aspects and impact of proposed regulations.

Comments
Has tech. Ctee. to handle all technical aspects of environmental conservation. Maintains cooperation with DGMK [illegible].
Supports work of VDI Komm. Reinhaltung der Luft.

D.040 Mineralöl Wirtschaftsverband 4.[illegible]

D 041 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BUNDESBAHN-ZENTRALAMT

Federal Railways, Central Administration

ACRONYM: DB

See also

ADDRESS: [illegible]

[illegible]

Tel.

AFFIL

Title	PERSONNEL	Function
Dipl.Ing.	W. [illegible]	

AP aims and actions

Comments

Member of VDI Komm. R. der Luft.

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] MIKROBIOLOGIE [illegible]

[illegible] and Microbiology Inc.

ACRONYM

See also

ADDRESS

Tel.

AFFIL

Title	PERSONNEL	Function

AP aims and actions

[illegible]

Comments

[illegible]

D 047 ARN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.66 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME INSTITUT FÜR ZIEGELFORSCHUNG e.V.
Brick Research Institute

ACRONYM:

See also

ADDRESS 4300 ESSEN-KRAY,
Am Zehnthof 197.

Tel.

AFFIL.

Title PERSONNEL Function

Dipl.Ing. [illegible]

AP aims and actions

[illegible]

Comments

Member of VDI Komm. R. der Luft.

[illegible]

[illegible] A B [illegible] M S 1 2 [illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible]

Tel.

AFFIL. [illegible]

Title PERSONNEL Function

[illegible]

AP aims and actions

[illegible]

Comments

Member of VDI Komm. R. der Luft.

[illegible] Zementindustrie [illegible]

D 047 ADV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

ACRONYM:
See also D.055

NAME [illegible]
[illegible]

ADDRESS [illegible]
[illegible]

Tel
AFFIL [illegible]

Title	PERSONNEL	Function
Dipl.Ing.	[illegible] Hösgen	Hauptstelle für Staub- und Silikosebekämpfung.
[illegible]	[illegible]	
Dipl.Phys	[illegible]	

AP aims and actions
[illegible]
D.0[illegible].

Comments:
Member [illegible] VDI Komm. R. der [illegible]

4.7[illegible]

D.0[illegible] [illegible]

D ADV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

ACRONYM:
See also

NAME [illegible]
[illegible]

ADDRESS [illegible]

Tel
AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	

AP aims and actions

Comments:
Member [illegible]

D.0[illegible] [illegible] Deutsche [illegible]

D	047	ASN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: GEMEINSCHAFTSAUSSCHUSS VERZINKEN eV
Cooperative Galvanizing Board Inc.

ACRONYM:
See also

ADDRESS: 4000 DÜSSELDORF,
Beethovenstrasse 12.

Tel:
AFFIL:

Title	PERSONNEL	Function
Obering.	K. [illegible]	

AP aims and actions

Comments
Member of [illegible] Komm. [illegible]

D.[illegible] Gemeinschaftsausschuss Verzinken eV

D	[illegible]	[illegible]	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: VBD. D. TEER U. ASPHALTMAKADAM HERSTELLENDEN FIRMEN WEST eV
[illegible] Asphaltmacadam Mfg. Firms Inc.

ACRONYM
See also

ADDRESS: [illegible]

Tel:
AFFIL:

Title	PERSONNEL	Function
Dipl.-Ing.	K. [illegible]	

AP aims and actions

Comments
[illegible]

D.[illegible] Vbd. d. Teer u. Asphaltmakadam herstellenden Firmen West eV

D 040 ASM A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ZENTRALINNUNGSVERBAND d. SCHORNSTEINFEGER-HANDWERKS

Central Guild of the Chimney Sweeping Trade

ACRONYM:

See also

ADDRESS [illegible]

[illegible] Str. [illegible].

Tel

AFFIL

Title PERSONNEL Function

Ing. W. Garels

Ing. K. Herrmann

AP aims and actions:

Comments

Member of the Komm. R. der [illegible].

D [illegible] Zentralinnungsverband des Schornsteinfeger-Handwerks

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D [illegible] ASM A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible]

[illegible]

ACRONYM:

See also

ADDRESS [illegible],

[illegible]

Tel

AFFIL

Title PERSONNEL Function

[illegible]

[illegible]

AP aims and actions:

Comments

Member of the Komm. [illegible]

D [illegible]

D 051 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ERDÖLCHEMIE GmbH
Petrochemistry Co. Ltd.

ACRONYM:
See also

ADDRESS: 4047 DORMAGEN,
Postfach 1180.

Tel
AFFIL

Title	PERSONNEL	Function
Dr.	O. Hübermann	

AP aims and actions:

Comments:
Member of VDI Komm. R. der Luft.

D.051 Erdölchemie GmbH

D ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME BUNDESVERBAND ÖL- UND GASFEUERUNGEN
Federal Association for Oil and Gas Firing.

ACRONYM
See also

ADDRESS [illegible]EN,
[illegible] 10.

Tel
AFFIL

Title	PERSONNEL	Function
Ing.	[illegible]	

AP aims and actions:

Comments:
Member of VDI Komm. R. der Luft.

D.052 Bundesverband Öl- und Gasfeuerungen

D 057 NAT [✓ A] B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 [✓ 24] [✓ 25] 31 32 33 34 35 L M [✓ S] 1 2 [✓ 3] 12 69 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: DEUTSCHE VERSUCHSANSTALT FÜR LUFT- UND RAUMFAHRT eV
German Research Institute for Air and Space Travel Inc.

ACRONYM:
See also D.81[illegible]

ADDRESS 8031 OBERPFAFFENHOFEN,
Post Wessling.
(Flughaven München-Riem).

Tel:
AFFIL

Title	PERSONNEL	Function
Prof.Dr.	H. [illegible]. Müller	director of Inst. of Atmospheric Physics.

AP aims and actions
Measurements of atmospheric opacity and radioactivity, using met. towers.

Comments:
Head office in Köln.

D.057 Deutsche Versuchsanstalt für Luft und Raumfahrt eV 1.69

D 058 NAT [✓ A] B C D E [✓ F] 01 02 03 04 05 11 [✓ 12] [✓ 13] 14 15 21 [✓ 22] 23 24 [✓ 25] 31 32 [✓ 33] 34 35 L M S 1 2 3 12 69 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DEUTSCHE GESELLSCHAFT FÜR CHEMISCHES APPARATEWESEN eV
German Society for Chemical Equipment Companies Inc.

ACRONYM DECHEMA
See also

ADDRESS [illegible]
[illegible]
[illegible]

Tel:
AFFIL

Title	PERSONNEL	Function
Dr.	[illegible]	

AP aims and actions:
[illegible] development and evaluation.
[illegible] cleaning equipment.
[illegible]
[illegible]
[illegible] pollution.

Comments:

D.058 Deutsche Gesellschaft für Chemisches Apparatewesen eV [illegible]

D 055 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S 7

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BERGBAU-FORSCHUNG GmbH
Mining Research Co. Ltd.

ACRONYM:

See also: D.045 D.410

ADDRESS: 4300 ESSEN-KRAY,
Frillendorfer Str. 351.

Tel:

AFFIL: Steinkohlen-bergbauverein
(D.045).

Title	PERSONNEL	Function
Prof.Dr	W. Peters	director
Dr.	K. Luft	
Dr.Ing.	K. Knoblauch	
Priv.Dz.	H. Jüntgen	
	M. Kruel	

AP aims and actions:
Studies and development of [illegible] and flue gas desulphurization.

Comments:
[illegible] in work of [illegible]-Forschungsinstitut (D.410).
Member of VDI-Kommission Reinhaltung der Luft (D.141).

D.055 Bergbau-Forschung GmbH 4.71

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S 7

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible]
[illegible]

ACRONYM:

See also:

ADDRESS: [illegible]

Tel:

AFFIL:

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

AP aims and actions:

Comments:
Member of VDI [illegible]

D.0[illegible] [illegible]

D 057 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: VEREINIGUNG DEUTSCHER ELEKTRIZITÄTSWERKE
Association of German Electricity Works

ACRONYM: VDEW
See also

ADDRESS: 6000 FRANKFURT/M 70,
Stresemannallee 23.

Tel:
AFFIL:

Title	PERSONNEL	Function
Dip.Ing	W. Mackenthun	

AP aims and actions:

Comments:
Member of VDI Komm. R. der Luft.

D.[illegible] Vereinigung Deutscher Elektrizitätswerke

D [illegible] ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible] DER DEUTSCHEN BAUINDUSTRIE e.V., Abt. Strassenba
[illegible] of the German [illegible] Industry Inc., Road Bldg. Dept.

ACRONYM:
See also

ADDRESS: [illegible] FRANKFURT/M,
[illegible]

Tel:
AFFIL:

Title	PERSONNEL	Function
Dipl.Ing.	H. [illegible]	

AP aims and actions:
Control of dust and fumes from [illegible] plants and from asphalt mixing plants.

Comments:
Member of VDI Komm. R. der Luft.

D.[illegible] [illegible] der Deutschen Bauindustrie [illegible] Dept.)

D 050 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME TREUHANDSTELLE DER ZELLSTOFF- UND PAPIERINDUSTRIE eV

Trust Company of the Cellulose and Paper Industries Inc.

ACRONYM:

See also

ADDRESS 5300 BONN,
Koblenzer Str. 55.

Tel

AFFIL

Title	PERSONNEL	Function
Dr.Ing.	H. Niethammer	

AP aims and actions:

Comments:

Member of VDI Komm. R. der Luft.

D.050 Treuhandstelle der Zellstoff- und Papierindustrie eV

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME BUNDESVERBAND NATURSTEIN-INDUSTRIE

Federal Association of the Natural Stone Industry

ACRONYM

See also

ADDRESS [illegible],
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Dipl.Ing. [illegible]		

AP aims and actions:

Comments:

Member of VDI Komm. R. der Luft.

D.0[illegible] Bundesverband Naturstein-Industrie

D C01 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BUNDESVERBAND DER DEUTSCHEN KALKINDUSTRIE eV

Federal Association of the German Lime Industry Inc.

ACRONYM:

See also

ADDRESS: 5000 KÖLN 1,
Kaiser-Wilhelm-Ring 2?.

Tel:

AFFIL:

Title	PERSONNEL	Function
	Prof.Dr. W. Piepenburg	

AP aims and actions:

Comments:

Member of VDI Komm. R. der Luft.

D.001 Bundesverband der Deutschen Kalkindustrie eV

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: DEUTSCHE FORSCHUNGSGES. f. BLECHVERARBEITUNG u. OBERFLÄCHEN[illegible]

German Research Association for Metal Rolling and Plating Inc

ACRONYM

See also

ADDRESS: [illegible]

Tel:

AFFIL:

Title	PERSONNEL	Function
	[illegible]	

AP aims and actions:

Comments:

Member of VDI Komm. [illegible]

D.[illegible] Deutsche Forschungsges. f. Blechverarbeitung usw...

D 101 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S 7

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SENATOR FÜR GESUNDHEIT UND UMWELTSCHUTZ

Minister for Health and Environmental Conservation

ACRONYM

See also

ADDRESS: 1000 BERLIN 30,
An der Urania [illegible].

Tel: [illegible]

AFFIL: Landesregierung Berlin
(Berlin Land Government).

Title	PERSONNEL	Function
Prof.Dr	Wolters	Minister
Dr.	[illegible]	Envtl Prot'n Dept. Head.
Dr.	[illegible]	Envtl Hygiene.
Dr.	Hartwig	

AP aims and actions

Development of environmental conservation policy for Berlin Land, and regulation [illegible] of Federal programmes.

Comments

Newly established responsibility for environmental conservation; organisation still evolving.

[illegible] Senator für Gesundheit und Umweltschutz 4.[illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible] FÜR [illegible]

[illegible] Institute for Occupational Hygiene

ACRONYM

See also

ADDRESS: [illegible],
[illegible].

Tel: [illegible]

AFFIL: Landesregierung Berlin
(Berlin Land Government).

Title	PERSONNEL	Function
Prof.Dr.	[illegible]	[illegible]

AP aims and actions

All aspects of occupational medicine, [illegible] effects.

Comments

[illegible] Landesinstitut für [illegible] 4.[illegible]

D 107 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1[illegible].66 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME TECH.U.BERLIN, Inst.f.Mess- u. Regelungstechnik

" Inst.f.Measurement and Control Techniques

ACRONYM

See also

ADDRESS 1000 BERLIN 15,
Kurfürstendamm [illegible].

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	Th. Gast	director

AP aims and actions

Development of instruments and techniques for measuring [illegible] and [illegible].

Comments

D.107 Tech.U.Berlin, Inst.f.Mess- u. Regelungstechnik 12.66

D 104 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1[illegible] S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME TECH.U.BERLIN, Inst.f.Aufbereitung

" Inst.f.[illegible] of Materials

ACRONYM

See also

ADDRESS [illegible],
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	[illegible] von Szantho	director

AP aims and actions

Development of [illegible] electrical precipitators.

Comments

Member of VDI Komm. R. der Luft.

D.104 Tech.U.Berlin, Inst.f.Aufbereitung 1[illegible]

D 105 APT A B C D E F 01 02 03 04 13 14 15 21 22 23 24 25 31 32 33 34 35 L M 9 Y 2 3 12 69 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME FREIE U.BERLIN, Inst.f.Theoretische Meteorologie

Inst.f. Theoretical Meteorology

ACRONYM

See also

ADDRESS [illegible],

[illegible] 45.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	H. Fortak	director

AP aims and actions

[illegible]

Comments

[illegible]

[illegible], Inst.f.Theoretische Meteorologie

105 APT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M 9 1 2 3 4

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM

See also

ADDRESS [illegible],

[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	

AP aims and actions

[illegible]

[illegible].

Comments

[illegible]

[illegible].

[illegible]

[illegible].

[illegible]

D 117 APD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.76 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME	HAHN-MEITNER-INSTITUT FÜR KERNFORSCHUNG Hahn-Meitner Institute for Nuclear Research	ACRONYM See also
ADDRESS	[illegible] Berlin 39, Glienicker Strasse 100.	
Tel.		
AFFIL.		

Title	PERSONNEL	Function
	Prof.Dr.W. Jacobi	Director

AP aims and actions:

[illegible]

Comments:

[illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME	[illegible]	ACRONYM See also
ADDRESS	[illegible]	
Tel.	[illegible]	
AFFIL.	[illegible]	

Title	PERSONNEL	Function
	[illegible]	[illegible]

AP aims and actions:

[illegible]

Comments:

[illegible]

D [illegible] RE1 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: METEOROLOGISCHE OBSERVATORIUM HAMBURG
Hamburg Meteorological Observatory

ACRONYM

See also [illegible]

ADDRESS: [illegible] HAMBURG 13,
Moorweidenstrasse 14.

Tel:

AFFIL: Deutscher Wetterdienst

Title	PERSONNEL	Function
Prof.Dr.	H. Schulz	director
Dr.	K. Kohl[illegible]	resp. for AP work

AP aims and actions

Measurement of [illegible] [illegible] radio masts.
[illegible]

Comments

[illegible] Meteorological Observatorium Hamburg [illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: STAATSINSTITUT FÜR ANGEWANDTE BOTANIK
State Institute for Applied Botany

ACRONYM

See also

ADDRESS: [illegible],
[illegible]

Tel:

AFFIL: [illegible] Hamburg

Title	PERSONNEL	Function
Prof.Dr.	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible] of [illegible] effects of [illegible] on plants.
Survey of [illegible] Hamburg area in connection with Hygiene [illegible]

Comments

[illegible]

Number of [illegible]

[illegible] Staatsinstitut für Angewandte Botanik [illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] Inst.

[illegible]

ACRONYM:

See also

ADDRESS [illegible],
[illegible]

Tel.

AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

[illegible] Inst.

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible] of North Germany

ACRONYM: [illegible]

See also

ADDRESS [illegible],
[illegible]

Tel. [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

D 037 ACD ~~A~~ ~~B~~ C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 ~~24~~ 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 12 69 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME U.KIEL, Inst.f.Bioklimatologie u. Meeresheilkunde

" Inst.f.Bioclimatology and Sea-therapy

ACRONYM

See also

ADDRESS [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	[illegible] Jessel	[illegible]

AP aims and actions

Comments

[illegible] of atmosphere [illegible]

[illegible] Inst.f.[illegible]matologie u. Meeresheilkunde

D 201 [illegible] A B C D ~~E~~ F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 ~~2~~ [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] LANDESVERWALTUNGSAMT

Lower Saxony Land Management Administration

ACRONYM

See also

ADDRESS [illegible],
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible]	[illegible]
Dr.Med	[illegible]	[illegible]

AP aims and actions

Comments

[illegible]
[illegible].

[illegible] Landesverwaltungsamt

ACN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME TECHNISCHER ÜBERWACHUNGS-VEREIN HANNOVER eV

[illegible] Association Inc. of Hanover

ACRONYM: TÜV-Hannover

See also D.020

ADDRESS [illegible]

Tel [illegible]

AFFIL

Title PERSONNEL Function

[illegible]

[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

[illegible]

A B [illegible] E F [illegible] 04 05 11 12 13 14 15 21 22 23 24 25 31 [illegible] 34 35 L M S 1 2 3 [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM

See also

ADDRESS [illegible]

AFFIL

Title PERSONNEL Function

[illegible]

AP aims and actions

Comments

[illegible]

D 304 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.7 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: TIERÄRZTLICHE H'SCHULE HANNOVER, Institut für Pathologie
Veterinary Training College Hannover, Inst. of Pathology

ACRONYM:
See also

ADDRESS: 3000 HANNOVER,
Bischofsholer Damm 15.

Tel
AFFIL

Title	PERSONNEL	Function
Prof.Dr.	[illegible]	director
Prof.Dr.	[illegible]	
Dr.	Kußner	
Dr.	Witte	

AP aims and actions
[illegible]

Comments
Member of [illegible]

[illegible] Hannover, Inst. für Pathologie

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible] HANNOVER, Inst. f. Mechanik
[illegible] Mechanics

ACRONYM
See also [illegible]

ADDRESS: [illegible]

Tel
AFFIL

Title	PERSONNEL	Function
Prof.Dr.	[illegible]	
Prof.Dr.	[illegible]	
Dr.-Ing.	[illegible]	

AP aims and actions
[illegible]

Comments
[illegible]

[illegible] HANNOVER, Inst.f.Mechanik

D 306 ACT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: TECH.U.BRAUNSCHWEIG, Inst.f.Kolbenmaschinen
Tech. U. Brunswick, Inst.f.Piston Engines

ACRONYM:
See also

ADDRESS: 33 BRAUNSCHWEIG,
Langer Kamp 6.

Tel: (0531) 3911

AFFIL:

Title	PERSONNEL	Function
Prof.Dr	K.Löhner *	director
Prof.Dr	H. Müller	spark-ign. engines
Prof.Dr	Woschni	diesel engines

AP aims and actions:

Effects of mixture preparation and operating conditions on vehicle exhaust gas composition; air injection; catalytic detoxing.
Development of new instrument types, esp. for NO$_x$.

Comments:

Represented on VDI Komm. R der Luft (D.021).
Undertaking research for Bundesmin. des Innern (D.00[illegible]).
Cooperates with T.U Clausthal (D.307) on vehicle exhaust reductions, esp. NO$_x$.

* Prof. Löhner is to retire soon.

D.306 Tech.U.Braunschweig, Inst.f.Kolbenmaschinen 10.70

D 307 ACT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: TECH. U. CLAUSTHAL, Inst.f.Chem.Tech. und Brennstofftechnik
" Inst.f.Chem.Technol. and Fuel Technology

ACRONYM:
See also D.002 D.306 D.30[illegible]

ADDRESS: 3392 CLAUSTHAL-ZELLERFELD,
Erzstrasse [illegible]

Tel: (05323) 721

AFFIL:

Title	PERSONNEL	Function
Dr.	[illegible] Luther	director*
[illegible]		

AP aims and actions:

Measurement and identification of air, urban and residential. Kinetics of smog formation.
Vehicle exhaust gas analysis; catalytic and other detoxing systems, esp. NO$_x$. Identification of diesel odours.
Development of European vehicle emission test cycle.
Development of instruments and methods of measurement.
DFG measuring station (D.0[illegible]).

Comments:

Undertakes some work on [illegible].
Advises or does research for Fed. Ministry of Interior (D.00[illegible]).
Publishes extensively in Brennst. u. Kohle; Staub.
Member of VDI Komm. R. der Luft.
Cooperates with T.U Braunschweig (D.306) and Hannover (D.30[illegible]) on vehicle exhaust effects and reduction.

*Prof. Luther has died.

D.307 Tech.U.Clausthal, Inst.f.Chem.Tech.u.Brennstofftechnik 10.70

D [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: TECH.U.HANNOVER, Inst. für Kolbenmaschinen
" Inst. for I/c Engines

ACRONYM:

See also:

ADDRESS: 3000 HANNOVER,
Welfengarten 1.

Tel: [illegible]

AFFIL:

Title	PERSONNEL	Function
Prof.Dr	Groth	director

AP aims and actions:
[illegible] engines.

Comments:

D.[illegible] Techn.[illegible], Inst. für K[illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: VOLKSWAGENWERKE AG
[illegible]

ACRONYM: VW

See also:

ADDRESS: 3180 WOLFSBURG.

Tel:

AFFIL: [illegible] 10.1971.

Title	PERSONNEL	Function
Prof.	[illegible]	director
Prof.	Fiala	[illegible]
Dr.	[illegible]	[illegible]

AP aims and actions:
Development of low-emitting cars.

Comments:
[illegible]
emission [illegible].
[illegible]
[illegible].

D.31[illegible] Volkswagenwerke AG

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country [illegible] Type Functions [illegible] Effects Controls Remedies Size Status Date

NAME HESSISCHE MINISTERIUM FÜR LANDWIRTSCHAFT UND FORSTEN

Hessian Ministry of Agriculture and Forests

ACRONYM

See also

ADDRESS D-62 WIESBADEN,
[illegible]platz 2.

Tel.

AFFIL.

Title	PERSONNEL	Function
Dr.	K-H. Wentzel	resp. for state forests

AP aims and actions:

Comments:
Member [illegible] Komm. [illegible]

[illegible] Ministerium für Landwirtschaft und Forsten

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country Nr. Type Functions Effects Controls Remedies Size Status

NAME [illegible] VERWALTUNG [illegible] HESSEN

[illegible]

ACRONYM

See also

ADDRESS [illegible]

Tel. [illegible]

AFFIL. [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions:
[illegible] §[illegible]

Comments:
[illegible]

D. [illegible]

D 704 AFD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12 67 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: MAX-PLANCK Inst. f. Biophysik
" " Biophysics

ACRONYM
See also

ADDRESS 6000 FRANKFURT (Main),
Kennedy Allee 70.

Tel
AFFIL

Title	PERSONNEL	Function
Prof.Dr.	Boris Rajewsky	Director (now retired?)

AP aims and actions
Measurements of radioactivity [illegible]
[illegible]
Studies [illegible]

Comments

D [illegible] Max-Planck [illegible]

[illegible] A B C D E F [illegible] 04 05 11 12 13 14 15 [illegible] 24 25 31 [illegible] 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U. FRANKFURT MAIN, [illegible]
" [illegible]

ACRONYM
See also D.MAX-PLA.., [illegible]

ADDRESS [illegible]
[illegible]

Tel [illegible]
AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Director, [illegible]
[illegible]	[illegible]	AP measurements
[illegible]	[illegible]	[illegible] " "
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Interpretation of data

AP aims and actions
Measurements of [illegible] SO_2 [illegible]
for [illegible]
horizontal [illegible] SO_2 [illegible]
Development and [illegible] for pollutants
SO_2 NO NO_2 by metals [illegible]
Initial studies of [illegible]
Studies of turbulence parameters [illegible]
dispersion [illegible]
of artificial plumes, [illegible]
World-wide [illegible] measurements [illegible]
[illegible]

Comments
Supported by [illegible]
[illegible]
[illegible]
[illegible]
[illegible]

D.2011 U. Frankfurt, [illegible] und Geophysik [illegible]

D 356 ACP A ~~B~~ C D E F 01 02 03 04 05 11 12 13 14 15 21 ~~22~~ 23 ~~24~~ 25 31 32 33 34 35 ~~L~~ M S ~~1~~ 2 3 11.69 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: TH DARMSTADT, Institut für Meteorologie
" Institute of Meteorology

ACRONYM:

See also

ADDRESS: [illegible] DARMSTADT,
[illegible]strasse 1.

Tel: [illegible]

AFFIL

Title	PERSONNEL	Function
Prof.Dr	F. Wippermann	Head of Institute
Prof.Dr	W. Klug	
Dr.	[illegible]	

AP aims and actions:

Theory and observations of [illegible] and plume rise; [illegible] calculations.
[illegible]

Comments:

[illegible] standard calculation method adopted in the [illegible].

[illegible]

[illegible] Institut für Meteorologie

D [illegible] ~~A~~ B C ~~D~~ E ~~F~~ 01 02 ~~03~~ 04 05 11 ~~12~~ 13 14 15 21 ~~22~~ 23 ~~24~~ 25 31 32 33 ~~34~~ ~~35~~ L M S 1 ~~2~~ 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible] AG

ACRONYM:

See also

ADDRESS: [illegible]

Tel:

AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
	[illegible]	

AP aims and actions:

Measurement of effluent [illegible]
[illegible]

Comments:

[illegible]

[illegible]

[illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible].76 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible], Inst. für Tierernährung

" Inst. for Animal Nutrition

ACRONYM

See also D.0[illegible]

ADDRESS [illegible],
[illegible] 4.

Title	PERSONNEL	Function
Prof.Dr.	[illegible] Bruhn	[illegible]

Tel

AFFIL

AP aims and actions

Studies [illegible] in animals.

Comments

Member of the [illegible] commission [illegible] (see [illegible]).

[illegible] .76

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible].76 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM

See also

ADDRESS [illegible],

Title	PERSONNEL	Function
Prof.Dr.	[illegible]	[illegible]

Tel

AFFIL

AP aims and actions

[illegible]

Comments

[illegible] .76

A [illegible] 04 05 11 [illegible] 22 23 24 25 31 32 33 34 35 L M Ø 1 2 3 4, 71 [illegible]

Effects | Controls | Size | Status | Date

NAME [illegible]

ACRONYM

See also

PERSONNEL

Function

AFFIL

AP area and Ecosyst

Comments

PERSONNEL

AFFIL

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] 1

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] DES LANDES NORDRHEIN-WESTFALEN

[illegible], North-Rhine Westphalia

ACRONYM

See also D.402

ADDRESS [illegible]

Tel.

AFFIL

Title	PERSONNEL	Function
Min.Dir. K.[illegible]		
[illegible]		
[illegible]		

AP aims and activities

Comments

[illegible] of the most active AP [illegible]

[illegible] Komm. [illegible] der Luft.

[illegible]

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] 1

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM [illegible]

See also [illegible]

ADDRESS [illegible]

Tel.

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]		
[illegible]		
[illegible]		[illegible]
[illegible]		[illegible]

AP aims and activities

Comments

[illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 M S 1 2 3 [illegible]12.66 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM

See also D.009 [illegible]

ADDRESS [illegible]

[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
[illegible]		

AP aims and actions

[illegible]

Comments

[illegible]

[illegible]

[illegible] [illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 M S 1 2 3 [illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM [illegible]

See also [illegible]

ADDRESS [illegible]

Tel

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]		[illegible]
[illegible]		[illegible]
[illegible]		[illegible]
[illegible]		[illegible]
[illegible]		[illegible]

[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

[illegible] [illegible]

D	405	BBD	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	12.69	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME HYGIENE-INSTITUT DES RUHRGEBIETS eV

Hygiene Institute of the Ruhr Area

ACRONYM

See also

ADDRESS 4650 GELSENKIRCHEN,
[illegible] Strasse 19.

Tel

AFFIL

Title	PERSONNEL	Function
Prof. Dr. [illegible] Wüstenberg		director
Prof. Dr. C. Primavesi		

AP aims and actions

[illegible]

Comments

Were active some years ago [illegible]
[illegible]
Dr. Primavesi has published [illegible]
[illegible] measurements.
Member of VDI Komm. R. d. Luft.

D.405 [illegible] 12.69

D	[illegible]	[illegible]	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	4.71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME [illegible]

[illegible]

ACRONYM

See also D.[illegible] D.360

ADDRESS [illegible],
[illegible]

Tel

AFFIL [illegible] Berlin (D.[illegible])

Title	PERSONNEL	Function
Dr. [illegible]		director

AP aims and actions

Measurement of [illegible] AP and studies of its effects on health and climate.

Comments

Member of VDI Komm. R. d. Luft.

D.404 Auswertestelle der [illegible] 4.71

D 407 ADI A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME RUHRKOHLEN-BERATUNG GmbH
Ruhr Coal Consulting Co. Ltd.

ACRONYM:
See also D.045

ADDRESS 43 ESSEN 1,
[illegible]
[illegible]

Tel

AFFIL [illegible]
[illegible]

Title	PERSONNEL	Function
Ob-ring.	H.M.Thorck	resp. for clean air matters
Dr.	Eknolt	head of tech.depts.
Dr	Eckroff	i/c test lab.

AP aims and actions
[illegible] of smoke [illegible] from [illegible] -
[illegible]
[illegible] operation
[illegible].
[illegible] al-[illegible]

Comments
Smokeless's work is subject of thesis by Dr. Thieme (Tech.H'schul Karlsruhe)(summarized in Staub).

Member of VDI Komm. R. der Luft.

D.407 Ruhrkohlen-Beratung GmbH 12.69

D 408 ADI A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ~~DUISBURGER KUPFERHÜTTE~~
Duisburg Copper Works

ACRONYM
See also

ADDRESS [illegible],
[illegible]
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible]	Director
Dr.	[illegible]	
	[illegible] Towarte	

AP aims and actions
Studies of [illegible] for [illegible] oxid- ation, [illegible].
Design and comparison of air quality monitoring instruments (participated in design of '[illegible]meter' - D.2571).

Comments
Member of VDI Komm. R. der Luft.

D.408 Duisburger Kupferhütte 4.71

D 400 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME METEOROLOGISCHES OBSERVATORIUM AACHEN
Aachen Meteorological Observatory

ACRONYM
See also

ADDRESS 5100 AACHEN,
Pipinstrasse 1.

Tel

AFFIL Deutscher Wetterdienst

Title	PERSONNEL	Function
Dip.Met	H. Burchardt	

AP aims and actions
Lidar measurements of smoke plumes.

Comments
Member of VDI Komm. R. [illegible]

D.409 Meteorologisches Observatorium Aachen 10.70

D 410 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME GESELL. ZUR FOERDERUNG DER LUFTHYGIENE U. SILIKOSEFORSCH. eV
Soc. for the Furtherance of Air Cons. & Silicosis Research.

ACRONYM
See also D.41

ADDRESS 4000 DUESSELDORF,
Gurlittstrasse 53.

Tel

AFFIL Supporting organisation of
(and the Res.Inst. of the
same name at the U. of Duess-
eldorf - D.412).

Title	PERSONNEL	Function
Prof.Dr	W. Kikuth	
Dr	Oermann	

AP aims and actions:
Investigations into problems of air hygiene.

Comments
See back of card for member organisations.

D.410 Gesell. zur Förderung der Lufthygiene u. Silikoseforschung eV 12.69

[illegible]

A B C D E [illegible] 13 14 15 [illegible] 33 34 35 [illegible] M B 1 2 Z [illegible] S

Efforts [illegible] Size Status [illegible]

NAME [illegible]

ACRONYM

See [illegible]

ADDRESS [illegible]

Title PERSONNEL Function

[illegible]

Tel

AFFIL

AP aims and activities [illegible]

Comments

[illegible]

D 41[illegible] ACD [✓ A] [✓ B] C [✓ D] E F 01 02 03 04 05 [✓ 11] 12 13 14 15 21 22 23 [✓ 24] 25 31 32 33 34 35 [✓ L] M S [✓ 1] 2 3 12 69 S [✓ 1]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME D.DÜSSELDORF, Med.Inst.f.Lufthygiene u. Silikoseforschung
" Med.Inst.f.Air Hygiene and Silicosis Research

ACRONYM

See also D.410 D.41[illegible]

ADDRESS 4000 DÜSSELDORF,
Gurlittstrasse 53.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr	H-W. Schlipköter	director
Dr.Med.	G. A. Fodor	
Dr.Med.	W. Dehnen	
Dr.Med.	H. Antweiler	
Dr.Med.	R. Dolgner	(not all AP)
Dr.Ing.	K. H. Friedrichs	
Dr.	[illegible] Tomingas	
Dr.	E. Brockhaus	

AP aims and actions

[illegible]

Comments

Member [illegible] Komm. R. der Luft.

D.41[illegible] D.Düsseldorf, Med.Inst.f.[illegible]

D 41[illegible] [✓ A] [✓ B] C D E F 01 02 03 04 05 [✓ 11] 12 13 14 15 21 22 23 24 [✓ 25] 31 32 33 34 35 L M [✓ S] 1 [✓ 2] 3 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME D.MÜNSTER, Inst.f.Med. [illegible] Physik
" Inst.f.Medical Physics

ACRONYM

See also

ADDRESS [illegible] MÜNSTER,
[illegible]strasse [illegible].

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr	[illegible]	director

AP aims and actions

Effects of particulates on health.
Research into filtration of fine particles and absorption of SO₂ by [illegible].
Research into smog formation.

Comments

Member of VDI Komm. R. der Luft.

D.41[illegible] D.Münster, Inst.f. Medizinische Physik [illegible]

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12-69 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME VEGETATIONSVERSUCHSANSTALT HUBBELRATH
Vegetation Research Establishment, Hubbelrath

ACRONYM:
See also D.422

ADDRESS [illegible]
[illegible]

Tel.
AFFIL.

Title	PERSONNEL	Function
Dr.	Helmut Berge	director

AP aims and actions:
[illegible]

Comments:
Private research organization.
[illegible]

[illegible] 12.69

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12-69 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]
[illegible]

ACRONYM
See also

ADDRESS [illegible]

Tel.
AFFIL.

Title	PERSONNEL	Function
Prof.Dr. [illegible]		

AP aims and actions:
[illegible]

Comments:
Private research establishment.

[illegible] 12.69

D 416 ACD ~~A~~ ~~B~~ C ~~D~~ E F 01 02 03 04 05 11 12 13 14 15 21 22 23 ~~24~~ ~~25~~ 31 32 33 34 35 L M ~~S~~ ~~1~~ 2 3 12 69 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: R-W TECH.H'S AACHEN, Forschungsstelle f. Geophysik u. Meteorol.
" Res. Station for Geophysics & Meteorol.

ACRONYM:

See also

ADDRESS 5100 AACHEN,
Templergraben 55.

Tel:

AFFIL

Title	PERSONNEL	Function
Prof.Dr	Hans Israel	director (retired)

AP aims and actions:
Studies of atmospheric electricity and condensation nuclei. Atmospheric radioactivity measurements.

Comments:

D.416 R-W TH Aachen, Forschungsstelle f. Geophysik u. Meteorologie 12.69

D 417 ACT ~~A~~ ~~B~~ C D E F 01 02 03 04 05 11 ~~12~~ 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 12 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: R-W TH AACHEN, Botanisches Institut
" Botanical Institute

ACRONYM

See also

ADDRESS 5100 AACHEN,

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr	A. Th. Czaja	director

AP aims and actions
Effect of cement dust on plants.

Comments

D.417 R-W TH Aachen, Botanisches Inst. 12.69

D	41H	ACD	[✓ A] [✓ B] C D E F	[✓ 01] [✓ 02] 03 04 05	11 12 13 14 15	21 22 23 24 [✓ 25]	[✓ 31] 32 [✓ 33] 34 35	L M [✓ S]	1 2 [✓ 3]	10.70	S T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME R-W TH AACHEN, [illegible] f. Metallkunde... *
[illegible] f. Metallurgy...

ACRONYM

See also

ADDRESS [illegible] Aachen,
W[illegible]strasse.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr. [illegible]		[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

[illegible] TH Aachen, [illegible] f. Metallurgie...

D	[illegible]	[illegible]	[✓ A] [✓ B] C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 [✓ 24] 25	31 [✓ 32] [✓ 33] 34 35	L M [✓ S]	1 2 [✓ 3]	[illegible]	S T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME R-W TH AACHEN, [illegible]
[illegible]

ACRONYM

See also

ADDRESS [illegible],
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr. [illegible]		[illegible]

AP aims and actions

Investigation of the influence of [illegible] development of [illegible]; [illegible] air quality.

Comments

1.4 [illegible] R-W TH Aachen, Inst. f. Brennstoffchemie

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12 69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME R-W TH AACHEN, Inst. f. Verfahrenstechnik
" -Inst. for Process Technology

ACRONYM
See also

ADDRESS [illegible] AACHEN,
[illegible] 30,

Tel
AFFIL

Title PERSONNEL Function
Prof.Dr. H. Rautenbach director

AP aims and actions
[illegible] BRB [illegible] particulates,
[illegible]
[illegible]

Comments

[illegible] R-W TH AACHEN, [illegible] Verfahrenstechnik [illegible]

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12 [illegible]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]
[illegible]

ACRONYM
See also

ADDRESS [illegible],
[illegible]

Tel
AFFIL

Title PERSONNEL Function
[illegible]

AP aims and actions
[illegible]

Comments
[illegible]
[illegible]
[illegible]

[illegible] standardization [illegible]

D [illegible] ~~A~~ B C D E F 01 02 03 04 05 11 ~~12~~ 13 14 15 21 22 23 ~~24~~ 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ [illegible].70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible] INSTITUT HEILIGENHAUS

[illegible] Institute of Dr. [illegible] at Heiligenhaus

ACRONYM:

See also D.414

ADDRESS [illegible] HEILIGENHAUS,
Am [illegible] 14.

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	Helmut [illegible]	director

AP aims and actions

[illegible]

Comments

[illegible] research institute, [illegible] papers [illegible] and producers.

D.4[illegible] [illegible] .70

D 4[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 ~~24~~ 25 31 32 33 34 35 L M S 1 ~~2~~ 3 [illegible] S ~~T~~

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible] BAYER AG.

ACRONYM: [illegible]

See also

ADDRESS [illegible].

Tel

AFFIL

Title	PERSONNEL	Function
Dipl.Ing.	[illegible]	[illegible]
Dr.Ing.	[illegible]	[illegible]
Dr.	[illegible]	[illegible]
Dr.	[illegible]	
Ing.	[illegible]	
Ing.	[illegible]	
Dipl.Ing.	[illegible]	

AP aims and actions

[illegible]

Comments

Supports chemical [illegible]

Dr. [illegible]

Member [illegible]

D.4[illegible] [illegible] AG. [illegible]

D 424 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: R W TH AACHEN, Inst. für Materialforschung

" Inst. for Materials Research

ACRONYM:

See also

ADDRESS 5100 AACHEN

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	Müller	director

AP aims and actions

Studies of the possibilities of reducing vehicle exhaust emissions by the [illegible] in engine [illegible].

Comments

D.424 RWTH Aachen, Inst. für Materialforschung 10.70

D [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME TH AACHEN, Inst. für Thermodynamik

" Inst. for Thermodynamics

ACRONYM

See also

ADDRESS [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	[illegible]	director

AP aims and actions

Research into the use of catalytic afterburners for the reduction of I/C engine exhaust emissions.

Comments

D.4[illegible] TH Aachen, Inst. für Thermodynamik 4.71

D 4.6 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME U. AACHEN, Inst. f. Kraftfahrwesen und Kolbenmaschinen
" Inst. of Vehicle Technology and I/c Engines

ACRONYM

See also

ADDRESS 5100 AACHEN.

Tel

AFFIL

Title	PERSONNEL	Function
Prof. Dr	F.A.F. Schmidt	director

AP aims and actions

Reduction of vehicle exhaust [illegible] improve-ments [illegible] design features.

Comments

D.4.6 U. Aachen, Inst. f. Kraftfahrwesen und Kolbenmaschinen 4.71

D 4.7 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME VERSUCHSANSTALT DER LANDWIRTSCHAFTSKAMMER WESTFALEN
Research Institute of the Westfalen Farming Chamber

ACRONYM

See also

ADDRESS 4400 Münster - [illegible],
[illegible] Straße [illegible].

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions

Comments

D.4.7 Versuchsanstalt der Landwirtschaftskammer Westfalen 10.70

D	428	REG	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	10.70		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		

NAME UNTERSUCHUNGSANSTALT DER LANDWIRTSCHAFTSKAMMER RHEINLAND
Research Institute of the Rheinland Farming Chamber

ACRONYM:

See also

ADDRESS 4400 MÜNSTER,
Von Esmarch Strasse 12.

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions

Comments

1.4[illegible] Untersuchungsanstalt der Landwirtschaftskammer Rheinland 10.70

D	4[illegible]	[illegible]	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	10.70		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		

NAME AGRIKULTUR-CHEMISCHES INSTITUT Dr.Helmut Bohne
Agro-Chemical Institute of Dr. Helmut Bohne

ACRONYM

See also

ADDRESS [illegible] BAD GODESBERG,
[illegible]strasse 55.

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions

Comments

1.4[illegible] Agrikultur-Chemisches Institut Dr. Bohne 10.70

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME MAX-PLANCK-INSTITUT FÜR EISENFORSCHUNG
Max Planck Institute for Steel Research

ACRONYM:

See also

ADDRESS [illegible] DÜSSELDORF,
Max-Planck-Strasse 1.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr	W. Oelsen	director
Dr.	K. Bohnenkamp	

AP aims and actions

Studies of the effects of atmospheric pollutants on the corrosion of steels.

Comments

Supported by the Corrosion WG of the European Coal & Steel Community.

Max-Planck-Institut für Eisenforschung 4.71

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME RHEINISCH-WESTFÄLISCHE ELEKTRIZITÄTS-WERKE AG
Rhine-Westphalia Electricity Works Co.

ACRONYM: RWE-AG

See also

ADDRESS [illegible] ESSEN,
Kruppstrasse 5.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function

AP aims and actions

Development of prototype electric car [illegible] and provision of associated battery service network.

Comments:

Joint operation with Messerschmidt, Bölkow and Blom (for mechanics and body-work) and Varta (for batteries). RWE is sponsor and financial backer.

Rheinisch-Westfälische Elektrizitäts-werke 4.71

[illegible] A B [illegible] 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 36 L M S 1 2 3 [illegible] S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible]

Tel

AFFIL

Title **PERSONNEL** Function

Dr.Ing. [illegible]

AP aims and actions

Development of wet process for desulphurisation of flue gases; [illegible] recovery as [illegible].

Comments

[illegible] 9.70

[illegible] 434 110 A B C D E F [illegible] 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible]

Tel

AFFIL

Title **PERSONNEL** Function

Dr.Ing. N. Lowicki

AP aims and actions

Development of flue gas desulphurisation process - the '[illegible] AGR process'.

Comments

D.434 [illegible] 9.70

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM [illegible]

See also

ADDRESS [illegible] ROMA.

Title PERSONNEL Function

AP aims and actions

[illegible]

Comments

[illegible] interference with [illegible]

[illegible]

4.71

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3 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4. 5 T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] AP

ACRONYM [illegible]

See also

ADDRESS [illegible] ROMA.

Title PERSONNEL Function

Tel

AFFIL

AP aims and actions

[illegible] environment.

Comments

[illegible]

4.71

[illegible] 2 [illegible] 24 [illegible] 34 35 L M S 1 2 3 10.76 [illegible] S T

Type Functions [illegible] Effects Controls Remedies Size Status Date

[illegible]

ACRONYM

See also

Title PERSONNEL Function

[illegible]

Tel [illegible]

AFFIL [illegible]

AP aims and actions

Comments

[illegible] produces report of findings.

[illegible] 10.76

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Causes Effects Controls Remedies Size Status Date

NAME [illegible] RUHRGEBIET [illegible]

[illegible] der Bundesrepublik [illegible]

ACRONYM [illegible]-Rheinland

See also D.020

ADDRESS [illegible]

Tel [illegible]

AFFIL [illegible]

Title PERSONNEL Function

Dr.Ing. A. [illegible] Direktor

[illegible]

AP aims and actions

[illegible] suitable.

Comments

Published annual report.

Member of VDI Komm. R. der Luft.

4.71

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 (2 5) S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME U.MAINZ, Inst. f. Angewandte Physik
[illegible] Applied Physics

ACRONYM

See also

ADDRESS 6500 MAINZ,
[illegible]
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	H. Blume	director (retired).
Prof.Dr.	C. Junge	

AP aims and actions

[illegible] aerosols - spectrometry, filtration, [illegible].
Size distribution, chemistry and [illegible] properties of atmospheric aerosols.
[illegible]
[illegible]

Comments

U.MAINZ, Inst. f. Angewandte Physik [illegible].69

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.70 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME MAX-PLANCK-INSTITUT FÜR CHEMIE
Max-Planck Institute for Chemistry

ACRONYM

See also

ADDRESS 6500 MAINZ,
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	C. Junge	
Dr.	[illegible]	
	W. Seiler	

AP aims and actions

Chemical constitution of atmospheric aerosols and gases.

Comments

Max-Planck-Institut für Chemie, Mainz 7.70

[illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME U. MAINZ, Institut für Meteorologie
" Meteorological Institute

ACRONYM:

See also

ADDRESS [illegible] MAINZ.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr	K. Bullrich	director

AP aims and actions:
Studies of fine particulates and aerosols.

Comments:

D.[illegible] U. Mainz, Inst. für Meteorologie 9.70

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601 REC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME STAATLICHES INST. FÜR HYGIENE UND INFEKTIONSKRANKHEITEN
State Institute for Hygiene and Infectious Diseases

ACRONYM:

See also

ADDRESS 6600 SAARBRÜCKEN,
Malstatter Strasse 17.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	L. Wolff	director

AP aims and actions:
Measurements of SO_2 dustfall CO/HC in ambient air.

Comments:
Member of VDI Komm. R. der Luft.
Publishes work in Schriftenreihe.

D.601 Staatliches Inst. für Hygiene und Infektionskrankheiten 10.70

[illegible] A B C D E F [illegible] 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME TECHNISCHER ÜBERWACHUNGSVEREIN SAARLAND e.V.
Technical Inspection Association Inc. of Saarland

ACRONYM TÜV-Saarland
See also D.600

ADDRESS 6600 SAARBRÜCKEN 3,
[illegible]
[illegible]

Tel. [illegible]
AFFIL [illegible]

Title	PERSONNEL	Function
Oberingr.	H. Monstadt	
Dipl. Ing.	Th. Burkel	Director

AP aims and actions

Comments:
Member of VDI Komm. R. der Luft.

D.700 TÜV-Saarland 4.71

D 701 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME ARBEITS- UND SOZIALMINISTERIUM BADEN-WÜRTTEMBERG
Ministry of Labour and Social Affairs, Baden-Württemberg

ACRONYM
See also D.702

ADDRESS 7 Stuttgart,
Rotebühlplatz 30.

Tel. [illegible]
AFFIL

Title	PERSONNEL	Function
Min.Rat.	K. Hammer	Air/noise/vibration (medical)
Reg.Dir.	H. Weinmann	
O.Reg.R.	H. Pallasch	
O.Reg.R.	H. Maier	

AP aims and actions
[illegible] : [illegible] of Landes- [illegible] and [illegible] in B-W.

Comments:
Member of VDI Komm. R. der Luft.

D.701 Arbeits- und Sozialministerium Baden-Württemberg 10.70

D. 700 A&E A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME LANDESINSTITUT FÜR ARBEITSSCHUTZ u. ARBEITSMEDIZIN, B-W.
Land Inst. for Occupational Safety and Hygiene, B-Wurt'berg

ACRONYM

See also D.701

ADDRESS 7500 KARLSRUHE,
Kaiserallee 61.

Tel

AFFIL Arb. u. Soz. Min., B-W (D.701)

Title	PERSONNEL	Function
Reg.Rat.	W. Morgenstern	director
Ober.Rt.	W. Obländer	air quality surveys
Reg.Rat.	K. Kamm	measurements of emissions
Ph.Chem.	L. Grupinski	chemical analyses
	total of about 10 on AP	

AP aims and actions
Surveys of AP in most urban areas of B-W; measurement of emissions from large sources, etc.

Comments
Member of VDI Komm. R. der Luft.

D.700 Landesinstitut für Arbeitsschutz... Baden-Württemberg 10.70

D. 707 A&E A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME TECHNISCHER ÜBERWACHUNGS-VEREIN BADEN eV
Technical Supervision Association Inc. of Baden

ACRONYM: TÜV-Baden

See also D.020

ADDRESS 6800 MANNHEIM,
Richard-Wagner Str. 2.

Tel 4.54.15

AFFIL Fed. of TÜV's (D.020)

Title	PERSONNEL	Function
Dr.	. Vetter	Director
Obering.	G.Beier	

AP aims and actions
Measurement of emissions from boilers and furnaces within its field of responsibility.

Comments:
Member of VDI Komm. R. der Luft.

D.707 TÜV Baden 10.70

[illegible] A B C D E F [illegible] L M S 1 2 3 10.70 S

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME TECHNISCHER ÜBER[illegible] STUTTGART e.V.

Technical Survey [illegible]ation Inc. of Stuttgart

ACRONYM: TÜV-Stuttgart

See also: D.[illegible]

ADDRESS 7000 STUTTGART,
[illegible]strasse 46.

AFFIL [illegible]

Title	PERSONNEL	Function
Dipl.Ing.	Greiner	Director
Dipl.Ing.	Dockenfeld	Head. for [illegible]
	[illegible]	

AP aims and actions:

Measurements of emissions from boilers and furnaces within the field of responsibility.

Comments:

[illegible] TÜV Stuttgart 10.70

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S 1

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME STAATLICHE LANDWIRTSCHAFTLICHE VERSUCHS....ANSTALT

State Agricultural Experimental & Research Station.

ACRONYM:

See also

ADDRESS 7500 KARLSRUHE-DURLACH,
Nesslerstrasse 23.

Tel.

AFFIL Landesmin. für Ernährung
und Landwirtschaft.
(Land Ministry for Food and
Agriculture.)

Title	PERSONNEL	Function
Dr.	A. Scholl	

AP aims and actions:

Studies of plant damage (esp. identification of complaints; correlation with [illegible]).

Comments

Member of VDI Komm. R. der Luft.

[illegible] Staatliche Landwirtschaftliche Versuchs...anstalt... 10.70

D 706 REG [✓ A] B C D E F 01 02 03 04 05 11 [✓ 12] 13 14 15 21 22 23 24 25 31 32 33 34 35 L M [✓ S] 1 2 [✓ 3] 10.70 S [✓ T]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BADEN-WÜRTTEMBERGISCHE FORSTLICHE VERSUCHS...ANSTALT
Baden-Württemberg Forestry Experimental and Research Sta.

ACRONYM:
See also

ADDRESS: 7800 FREIBURG,
Sternwaldstrasse 16.

Tel:

AFFIL: Landesmin. für Ernährung und Landwirtschaft.
(Land Ministry for Food and Agriculture)

Title	PERSONNEL	Function
Dr.	R. Zundel	head of land conservation

AP aims and actions:
Studies of plant damage (esp. investigation of complaints); correlation with AP.

Comments:
Member of VDI Komm. R. der Luft.

D.706 Baden-Württemberg Forstliche Versuchs... Anstalt 10.70

D 707 ACT [✓ A] B C D E F 01 02 03 04 05 [✓ 11] 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M [✓ S] 1 [✓ 2] 3 12.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U. HEIDELBERG, Inst. f. Physiologische Chemie
" Inst. f. Physiological Chemistry

ACRONYM:
See also

ADDRESS: 6900 HEIDELBERG,
Akademiestrasse 5.
(Postfach 1326).

Tel:

AFFIL:

Title	PERSONNEL	Function
Prof.Dr	W. Kutscher	director

AP aims and actions:
Studies of the carcinogenicity of soot, flue gases and other air pollutants.

Comments:
Member of VDI Komm. R. der Luft.

D.707 U. Heidelberg, Inst. f. Physiologische Chemie 12.69

D 70 ACT A B C D E F 01 02 03 04 05 11 12 13 14 16 21 22 23 24 25 31 32 33 34 35 L M S 1 2 Z (12 69) S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U. HEIDELBERG, Zweites Physikalisches Institut
" Second Physical Institute

ACRONYM:
See also

ADDRESS: 6900 HEIDELBERG,
Philosophenweg 12.

Tel
AFFIL

Title	PERSONNEL	Function
Prof.Dr	O. Haxel	director
Dr.	G. Schumann	

AP aims and actions
Measurements of ambient and fallout radioactivity.

Comments
Member of VDI Komm. R. der Luft.

D.70 U. Heidelberg, Zweites Physikalisches Inst. 12.69

D 70 ACT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 (12 69) S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U. HOHENHEIM, Inst. f. Tierernährung
" Inst. for Animal Nutrition

ACRONYM
See also

ADDRESS: 7000 STUTTGART-HOHENHEIM,
Emil-Wolff-Strasse [illegible].

Tel
AFFIL:

Title	PERSONNEL	Function
Prof.Dr	W. Wöhlbier	
Dr.	W. Oelschläger	

AP aims and actions
Metabolic studies of the effects of trace elements in animal feedstuffs. Analytical techniques for traces of F, Se, etc.

Comments:
Member of VDI Komm. R. der Luft.

D.70 U. Hohenheim, Inst. f. Tierernährung 12.69

D 710 ACT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U.STUTTGART, Inst.f.Mech.Verfahrenstechnik u. Luftreinhaltung
" Inst. of Mech. Processing and Air Conservation

ACRONYM:

See also

ADDRESS: 7000 STUTTGART,
Böblinger Str. 7

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	C. Alt	director

AP aims and actions

Research into the principles of dust control: studies of the efficiency of precipitators of different types, of ceramic filters.

Comments

Member of VDI Komm. R. der Luft.

D.710 U. Stuttgart, Inst.f.Mech.Verfahrenstechnik u. Luftreinhaltung 10.70

D 711 ACT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U.KARLSRUHE, Inst.f.Mechanische Verfahrenstechnik
" Inst.f. Mechanical Processing Technology

ACRONYM:

See also

ADDRESS: 7500 KARLSRUHE,
Richard-Willstätter-Allee.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	H. Rumpf	director
Dr.Ing.	F. Löffler	

AP aims and actions

Investigation of agglomeration, and flocculation of particles on filter fibres.
Development of scattered light analysers.
Studies of particulate sizing methods.
Design of centrifugal separators.

Comments

Member of VDI Komm. R. der Luft.

D.711 U. Karlsruhe, Inst.f.Mechanische Verfahrenstechnik 12.69

D 717 ACT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME D.KARLSRUHE, Inst.f.Elektrobiol. u. Biophysikal. Messtechnik
" Institute f. Electrobiology & Biophysical Measuring

ACRONYM

See also

ADDRESS 7500 KARLSRUHE,
[illegible]strasse [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr.	W. Ernsthausen	director

AP aims and actions

Effects of CO on electrical and mechanical function of hearts of warm-blooded animals.

Comments:

D.717 D. Karlsruhe, Inst.f.Elektrobiologie u. Biophys. Messtechnik 12.69

D 717 ACT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME D.KARLSRUHE, Inst.f.Mineralöl- u. Kohleforschung •
" Inst.f. Mineral Oil & Coal Research

ACRONYM

See also

ADDRESS 7500 KARLSRUHE 1,
[illegible]strasse [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	K. Griesbaum	

AP aims and actions

Research into the effects of flame turbulence on AP formation; flame stabilization studies.

Comments:

Member of VDI Komm. R. der Luft.
• Engler Bunte Institut for gas tech.

D.717 D. Karlsruhe, Inst. f. Mineralöl- u. Kohleforschung 10.70

D 714 ACD ~~A~~ ~~B~~ C D E F 01 02 03 04 05 11 12 13 14 15 21 ~~22~~ 23 ~~24~~ 25 31 32 33 34 35 L ~~M~~ S 1 ~~2~~ 3 12.69 S T

Country | No | Type | Functions | Sources | Effects | Controls | Remedies | Size | Status | Date

NAME: U.KARLSRUHE, Meteorologisches Institut
" Meteorological Institute

ACRONYM:

See also

ADDRESS: 7500 KARLSRUHE 1,
Kaiserstrasse 12.

Tel:

AFFIL:

Title	PERSONNEL	Function
Prof.Dr.	M. Diem	director
Dr.	K. Höschele	

AP aims and actions:

Research into wind profiles, exchange coefficients and topography on dust and gas dispersion.
Climatic distribution of pollutants.

Developed sticky slides (Diemsche Haftfolie) for sampling particulates.

Comments:

Did early part of work on dispersion for VDI.

D.714 U. Karlsruhe, Meteorologisches Institut 12.69

D 715 ACD ~~A~~ B C D E F 01 ~~02~~ 03 04 05 11 12 13 14 15 21 22 23 24 25 31 ~~32~~ 33 34 35 L M ~~S~~ 1 2 ~~3~~ 10.70 S T

Country | No | Type | Functions | Sources | Effects | Controls | Remedies | Size | Status | Date

NAME: T/H STUTTGART, Inst.f.Verfahrenstechnik u. Dampfkesselwesen
" Inst. of Processing and Boiler Technology

ACRONYM:

See also

ADDRESS: 7000 STUTTGART,
Holzgartenstrasse 15A.

Tel:

AFFIL:

Title	PERSONNEL	Function
Prof.Dr.	R. Quack	director

AP aims and actions:

Electrostatic dust removal methods for flue-gas cleaning.
Sizing of particulates.
Methods for removing SO_2 from flue gases.

Comments:

D.715 T/H Stuttgart, Inst.f.Verfahrenstechnik u. Dampfkesselwesen 10.70

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DWD Aerosolmessstation Schauinsland
[illegible] Air Measuring Station, Schauinsland

ACRONYM
See also D.03[illegible]

ADDRESS [illegible] SCHAUINSLAND,
[illegible]

Tel [illegible]
AFFIL DWD (D.0[illegible])

Title	PERSONNEL	Function
Dr.	[illegible] B[illegible]	director

AP aims and actions
Remote station for background measurements of: SO2 NO2 [illegible], dusts, pollen, spores, radioactivity; precipitation analysis; meteorology.
Realization of six background stations of DWD: part of European network of WMO.

Comments

D.7[illegible] DWD Aerosol-Messstelle Schauinsland 10.70

D 717 ADN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DWD MESS-STELLE MANNHEIM
DWD Measuring Station Mannheim

ACRONYM
See also D.032 D.71[illegible]

ADDRESS 6800 MANNHEIM,
Friesenheimer Insel.

Tel
AFFIL DWD (D.032)

Title	PERSONNEL	Function
Dipl.Phys.	A. Köhler	director

AP aims and actions
Measurements of dust, SO2 and meteorology.
Comparison of different dust samplers.

Comments
One of DWD AP measuring stations.
Member of VDI Komm. R. der Luft.

D.717 DWD Mess-stelle Mannheim 10.70

718 BRD A B C [✓ D] [✓ E] F 01 02 [✓ 03] [✓ 04] [✓ 05] [✓ 11] 12 13 14 15 21 [✓ 22] [✓ 23] [✓ 24] 25 31 32 33 34 35 L [✓ M] S 1 [✓ 2] 3 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME GEWERBEAUFSICHTSAMT MANNHEIM des Landes Baden-Württemberg

Trade Inspectorate of B-W Land, Mannheim

ACRONYM

See also D.701

ADDRESS 6800 MANNHEIM,

Tel

AFFIL Arb. u. Soz. Min., B-W (D.[illegible])

Title	PERSONNEL	Function

AP aims and actions

Enforcement of Gewerbeordnung.
Measurements of AP in Mannheim area.

Comments

D.718 Gewerbeaufsichtsamt Mannheim 10.70

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719 BRD A [✓ B] C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 [✓ 24] 25 31 32 33 34 35 L M [✓ S] 1 2 [✓ 3] 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME WETTERAMT FREIBURG

Meteorological Service, Freiburg

ACRONYM

See also D.700

ADDRESS 7800 FREIBURG,
Stefan-Meier-Str. 4.

Tel

AFFIL Deutscher Wetterdienst

Title	PERSONNEL	Function
Dr.	R. [illegible]	director

AP aims and actions

Meteorological advise on pollution dispersion to Landesinstitut (D.70[illegible]).

Comments

Member of VDI Komm. R. der Luft.

D.719 Wetteramt Freiburg 10.70

D 720 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME STAATLICHE INGENIEURSCHULE FÜR MASCHINENWESEN
State Engineering School for Machine Technology

ACRONYM

See also

ADDRESS 6750 KAISERSLAUTERN.

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions:

Comments:

D.720 Staatliche Ingenieurschule für Maschinenwesen 10.70

D 725 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Dr.Ing.h.c. F. PORSCHE
Porsche Car Co.

ACRONYM: PORSCHE

See also

ADDRESS: 7000 STUTTGART/Zuffenhausen,
Porschestrasse 42.

Tel: (0711) 82.03.1

AFFIL:

Title	PERSONNEL	Function
Dip.Ing.	Flech	head of Engineering Dept.
Dip.Ing.	Hensler	head of Engines Dept.

AP aims and actions:
Development of low-emitting sports cars.

Comments:

D.725 Porsche 4.71

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 M S 1 2 3 4 .71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME AUDI-NSU AG

ACRONYM

See also

ADDRESS 7107 Neckarsulm.

Tel

AFFIL VW (50%).

Title	PERSONNEL	Function
Dr.	Krause	director of Engineering (Ingolstadt).

AP aims and actions

Development of [illegible] Wankel engine.

Comments

Engineering centre at AUTO INGOLSTADT.

[illegible] 4.71

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4 .71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME DAIMLER-BENZ AG

ACRONYM 'Mercedes'

See also

ADDRESS 7000 Stuttgart - Untertürkheim, (Postfach 202).

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
Dr.-Ing.	H. Scherenberg	director Research & Eng'g.
Hr.	Obländer	responsible for engine tests

AP aims and actions

Development of low-emitting [illegible]

Comments

[illegible] Daimler-Benz AG 4.71

D 8001 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BAYERISCHE STAATSMINISTERIUM FÜR WIRTSCHAFT UND VERKEHR

Bavarian Ministry of Economics and Transport

ACRONYM: BStMWV

See also:

ADDRESS:
8000 MÜNCHEN 22,
Prinzregentenstrasse 28.

Tel:

AFFIL:

Title	PERSONNEL	Function
Reg.Dir.	Popp	director

AP aims and actions:
Promotes and subsidises research into air pollution control measures at a number of Bavarian institutes. Coordination of programmes by Bay'sche Min. des Innern (D.8002).

Comments:
No direct activity in AP.

D.8 Bayerische Staatsministerium für Wirtschaft und Verkehr 10.70

D 8002 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BAYERISCHE STAATSMIN. DES INNERN, Oberste Baubehörde

Bavarian Min. of the Interior, Highest Construction auth.

ACRONYM: BStMI

See also: D.8001

ADDRESS:
8000 MÜNCHEN 22,
Karl Scharnagl Ring 60.

Tel: (0811) 2 19-01

AFFIL:

Title	PERSONNEL	Function
Dr.Rer. Nat.	J. Vogl	Head of Envtl. Prot. Sect.*
Dr.	J. Feltzing	resp. for AP matters.
Dr.	H. Herb	meteorologist for AP.

AP aims and actions:
Coordination of AP matters in Bavaria.
Surveillance of AP in Bavaria (esp. industrial areas of München, Ingolstadt, Nürnberg-Fürth-Erlangen, and Burghausen continuous SO2 monitoring; spot measurements of F in Burghausen). Monthly evaluations and reports to local authorities and industries concerned.
Supports research offering solutions to AP problems (with money from other Bavarian Min. as appropriate).

Comments:
* Immissionsschutz = environmental quality conservation: air, noise, vibration, and waste disposal.

D.8 Bayerische Staatsmin. des Innern 10.70

D 503 RES A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BAYERISCHE LANDESGEWERBEANSTALT
Bavarian Industrial Test Establishment

ACRONYM: BLGA
See also: D.502

ADDRESS: NÜRNBERG [illegible]
Gewerbemuseumsplatz 2

Tel:

AFFIL: BStMWI [illegible]

Title	PERSONNEL	Function
Dr.	Dölker	responsible for AP matters.

AP aims and actions:
Undertakes AP and other measurements in support of Bavarian air quality regulation.

Comments:
Official testing institute.
Some cooperation in AP work with TÜV Bayern (D.503).

D.503 Bayerische Landesgewerbeanstalt 10.70

D 504 RES A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BAYERISCHES LANDESINSTITUT FÜR ARBEITSSCHUTZ
Bavarian State Institute for Labour Protection

ACRONYM:
See also:

ADDRESS: 800 München 22,
Pfarrstrasse 3

Tel: (0811) [illegible]

AFFIL: Min. für Arbeit und Soziale Fürsorge.
(Min. of Labour and Social Security).

Title	PERSONNEL	Function
Dr.	G. Lanz	director
Dr.	Th. zur Mühlen	
	(total of 10 in AP)	

AP aims and actions:
Measurements and advice in support of industrial hygiene regulations (MAK).
Research into medical aspects of effects of dust and gases (esp. Pb and solvents).

Comments:
Member of VDI Komm. R. der Luft.

D.504 Bayerisches Landesinstitut für Arbeitsschutz 10.70

D 05 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 5 T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BAYERISCHE LANDESANSTALT FÜR BODENKULTUR...
Bavarian Institute for Agriculture and Plants

ACRONYM:

See also

ADDRESS 8000 MÜNCHEN 19,
Menzingerstrasse 54

Tel (0811) 1.79.91

AFFIL Landwirtschaft Ministerium
(Bavarian Min. of Agriculture)

Title	PERSONNEL	Function
Dr.	H. R. Mayer (4 on AP problems)	director

AP aims and actions:
Studies of the effects of AP (esp. CO, F HCl dust - singly and in combination) on plants and trees.

Comments:

D. 05 Bayerische Landesanstalt für Bodenkultur.... 10.70

D 06 MUN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME REFERAT FÜR KREISVERWALTUNG...., MÜNCHEN
Commission for Local Administration...., Munich

ACRONYM:

See also

ADDRESS 8000 MÜNCHEN [illegible],
Rathaus,
Marienplatz 8.

Tel (0811) 24.[illegible]

AFFIL:

Title	PERSONNEL	Function
Dir.[illegible]. H. Schwendler		director of technical dept.

AP aims and actions:
Measurements of ambient AP in Munich - 7 fixed stations (incl. TV tower) + mobile lab.

Comments:
Measurements since 19[illegible]. (see "[illegible]verwendung" 1970 ; [illegible]6).

D.06 Referat für Kreisverwaltung..., München 10.70

D 011 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME TECHNISCHER ÜBERWACHUNGS-VEREIN BAYERN eV
Technical Supervision Association [illegible] of Bavaria

ACRONYM TÜV-Bayern
See also D.[illegible]

ADDRESS [illegible] MÜNCHEN [illegible]
[illegible]

Tel: [illegible]
AFFIL: [illegible]

Title	PERSONNEL	Function
Dir.Dr. [illegible]	Wolff	director
Oberring. [illegible]	Wiedmann	head of Section II(see text
Dipl.Ing. [illegible]	Fadinger	resp. for air quality
Dipl.Ing. [illegible]	Kaan	head of Section IV(see text

AP aims and actions
Surveil[illegible]
[illegible]
[illegible]
Invest[illegible]
[illegible]
Has [illegible]
Publishes [illegible]

Comments
Head office and some Depts. already at:-
8000 MÜNCHEN 2?,
Kaiserstrasse 14,
tel: (0811) [illegible]
Member of VDI Komm. R. der Luft.
See text for explanation of role.

D [illegible] 10.70

D [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] FÜR BRENN-, [illegible] SCHMIERSTOFFE, MÜNCHEN
Inst. for [illegible] and Lubricants, Munich

ACRONYM
See also D.053

ADDRESS [illegible] MÜNCHEN [illegible]
[illegible]

Tel: [illegible]
AFFIL: [illegible]

Title	PERSONNEL	Function
Prof.Dr.	[illegible] Spengler*	director

AP aims and actions
Analysis [illegible] in aircraft and other [illegible] problems.
Literature [illegible] processes (published [illegible]).

Comments:
* also hon. prof. at Munich TH, Inst. für Brenn- und Schmierstoffe.

D. [illegible] Inst. für Brenn-, [illegible] u. Schmierstoffe, München 10.70

D 17 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 10.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME FRAUNHOFER GES., Bioklimatische Forschungsstelle

" " Bioclimate Research Institute

ACRONYM

See also

ADDRESS [illegible]-PARTENKIRCHEN,
[illegible]

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	R. Reiter	Director

AP aims and actions

[illegible]

Comments

[illegible]

D [illegible] Fraunhofer Ges., [illegible] 10.70

D 14 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME BAYERNWERK AG

Bavarian Power Co.

ACRONYM

See also

ADDRESS INGOLSTADT.

Tel

AFFIL

Title	PERSONNEL	Function
One full-time operator + approx. [illegible]		

AP aims and actions

Monitors SO2 levels around Ingolstadt industrial area; prepares weekly summaries and monthly digests of data.

Comments

Survey required by Bavarian Min. of Interior (D.802). Carried out [illegible] of other large industries in area.

Contract with Munich Met. [illegible] for weather data, and with [illegible] (D.811) for instrument testing.

D.14 Bayernwerk AG (Ingolstadt survey) 4.71

A B C D E — 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible]

Title PERSONNEL Function

Tel

AFFIL

AP aims and actions

[illegible]

Comments

A B C D E 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4 T1 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM

See also

ADDRESS [illegible]

[illegible]

Title PERSONNEL Function

[illegible] Director

[illegible]

Tel

AFFIL

AP aims and actions

[illegible]

Comments

Private laboratory. Prof. [illegible] member [illegible] Univ. of [illegible].

4.71

D 821 ACD ~~A~~ ~~B~~ C D E F ~~01~~ 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 ~~32~~ 33 34 35 L M ~~S~~ 1 2 ~~3~~ 12.69 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U.MÜNCHEN, Physikalisch-chemisches Institut
U. MUNICH, Physical Chemistry Institute

ACRONYM:
See also

ADDRESS: 8000 MÜNCHEN 2,
Sophienstrasse 11.

Tel:
AFFIL:

PERSONNEL

Title	PERSONNEL	Function
Prof.Dr	G. M. Schwab	director

AP aims and actions:
Studies of catalysts for vehicle exhaust gas cleaning.

Comments:
Member of VDI Komm. R. der L. [illegible]
Support from Bavarian Ministries
(D.801-), through Fraunhofer
Gesellschaft (D.829).

D.821 U. München, Physikalisch-chemisches Institut 12.69

D 822 ACD ~~A~~ ~~B~~ C ~~D~~ E F 01 02 03 04 05 11 12 13 14 15 21 22 23 ~~24~~ 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 12.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U.MÜNCHEN, Meteorologisches Institut
U.MUNICH, Meteorological Institute

ACRONYM:
See also

ADDRESS: 8000 MÜNCHEN 13,
Amalienstrasse [illegible] III.

Tel:
AFFIL:

Title	PERSONNEL	Function
Prof.Dr	. Möller	director
	. Hofmann	
	. Kraus	
	. Moeler	
	H. Herb	

AP aims and actions:
Investigation and continuous measurement of atmospheric
turbulence and weather patterns in Munich area.

Comments:

D.822 U. München, Meteorologisches Institut 12.69

D 823 ADD ~~A~~ ~~B~~ C D E F 01 02 03 04 05 11 ~~12~~ 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 12.69 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U.MÜNCHEN, Inst.f.Forstsamenkunde u. Pflanzenzüchtung
U. MUNICH, Inst. f. Seed Research and Plant Breeding

ACRONYM:

See also

ADDRESS: 8000 MÜNCHEN 13,
Amalienstrasse 52.

Tel:
AFFIL:

Title	PERSONNEL	Function
Prof.Dr.	E. Rohmeder	Direktor
Dr.	Schönbach	

AP aims and actions

Breeding of varieties of spruce and pine relatively resistant to pollutants (incl. HF)

Comments

Member of VDI Komm. R. der Luft.

D 823 U. München, Inst.f.Forstsamenkunde u. Pflanzenzüchtung 12.69

D 824 ADD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U.MÜNCHEN, Inst.f.[illegible] Meteorologie u. Klimatologie
U. MUNICH, Inst.for [illegible] Meteorology and Climatology

ACRONYM:

See also

ADDRESS: 8000 MÜNCHEN [illegible],
[illegible]

Tel:
AFFIL:

Title	PERSONNEL	Function
Dipl.Ing.	K. [illegible]	

AP aims and actions

Comments

Member of VDI Komm. R. der Luft.

D 824 U. MÜNCHEN, Inst.f.[illegible] Meteorologie u. Klimatologie

D 626 ACD ~~A~~ ~~B~~ C D E F 01 02 03 04 05 ~~11~~ ~~12~~ 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 12.69 5 T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U.WÜRZBURG, Inst.f.Toxikologie u. Pharmakologie
" Inst. for Toxicology and Pharmacology

ACRONYM

See also

ADDRESS: 8700 WÜRZBURG,
Koelliker Strasse 2.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr	D. Henschler	Director

AP aims and actions

Studies of the effects of NO$_2$ on animals and humans.

Comments

Member of VDI Komm. R. der Luft.

D.626 U. Würzburg, Inst.f. Toxikologie u. Pharmakologie 12.69

D 627 ACD ~~A~~ B C D E F 01 02 03 04 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L ~~M~~ S 1 2 ~~3~~ 10.70 5 T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: U.ERLANGEN-NÜRNBERG, Inst. für Arbeits- und Sozialmedizin
" Inst. f. Industrial and Social Hygiene

ACRONYM

See also

ADDRESS: 8520 ERLANGEN

Tel

AFFIL

Title	PERSONNEL	Function
Prof.Dr	H. Valentin	Director
Prof.Dr	G. Lehnert	*
	H. Mustall	
	D. Szadkowski	
	K-H. Schaller	

AP aims and actions

Measurements of CO and Pb in blood of police and refuse collectors (in Frankfurt).

Comments

* Prof. Lehnert is now in Hamburg.

D.627 U.Erlangen-Nürnberg, Inst.f.Arbeits- und Sozialmedizin 10.70

D E 1 0 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible]

Title PERSONNEL Function

[illegible] A. [illegible]

Tel

AFFIL

AP aims and actions

Comments

[illegible] VIII Komm. [illegible]

[illegible]

A [illegible] 33 34 35 L M S 1 2 3 [illegible] 4.71 S

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible]

Title PERSONNEL Function

[illegible]

Tel

AFFIL

AP aims and actions

Comments

[illegible]

[illegible] 4.71

D 832 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME BAYERISCHE MOTOREN WERKE AG
'BMW' Car Co.

ACRONYM BMW
See also

ADDRESS 8000 MÜNCHEN 13,
Lerchenauer Strasse 76.

Tel (0811) 38.95.1
AFFIL

Title	PERSONNEL	Function
Dip.Ing.	B. Osswald	director for research & engineering.

AP aims and actions
Development of low-emitting cars.

Comments

D.832 'B.M.W' 4.

D 833 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME MASCHINENFABRIK AUGSBURG-NÜRNBERG AG
'M.A.N.' Engine Co.

ACRONYM MAN
See also

ADDRESS 8900 AUGSBURG

Tel
AFFIL

Title	PERSONNEL	Function
Dr.	J. S. Meurer	director for research

AP aims and actions
Development of low-emitting diesel engines

Comments

D.833 'M.A.N.' 4.71

D(E)	[illegible] A B C D [illegible] 01 02 03 04 05 11 12 13 14 15 [illegible]								4.71
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size [illegible]	Date

NAME [illegible] DDR.

[illegible] Paul [illegible]

ACRONYM

See also

ADDRESS [illegible],
[illegible].

Tel

AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
	[illegible]	
[illegible]	[illegible]	
	[illegible]	

AP aims and actions

Comments

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

[illegible] 4.71

GREAT BRITAIN

GENERAL AIR POLLUTION BACKGROUND

Geography

The United Kingdom of Great Britain and Northern Ireland comprises, with Eire, the land known as the British Isles. Topographically and geologically diversified, with most of the less-populated hilly areas concentrated in the north and west, these maritime and generally well-ventilated islands off the northwest of Europe support a comparatively crowded population of about 56 million.

Mineral resources are extensive and varied--although, because of Britain's early industrialization, some are now becoming commercially depleted; these include even iron and coal, where geologically-fractured seams make working increasingly uneconomic. Nevertheless, coal still contributes largely to the energy resources, especially in electricity generation. Even more recently, the discovery of large reserves of natural gas and oil in coastal water has initiated profound changes in the energy pattern--as well as reducing the availability of special solid fuels for the remaining domestic demand and for the metallurgical industries through the ending of town-gas manufacture. There is also an important nuclear power generating capacity.

Other significant mineral-based industries are limestone and road-stone preparation, cement, sand and gravel, brickworks, china clay and potteries, and glass manufacturing. Iron and steel production is very large, and there is an important activity in lead, tin, copper and, more recently, aluminum smelting. Much of British industry is concerned with metal conversion--steel and aluminum rolling--leading to shipbuilding, car manufacturing, and the like. Other industries with relevance to air conservation include oil refining, and heavy and fine chemicals manufacture.

The capital and commercial center, London, covers a broad area and is densely populated; together with a location where winter-time fogs are common, the consequent high-fuel consumption has led to notoriety in air pollution incidents, especially in the past when coal provided the major energy source. This situation has improved dramatically since the 1956 Clean Air Act was implemented.

In England, industry is heavily concentrated around Birmingham (the historic "cradle" of industrialization), Nottingham-Derby, Manchester, Sheffield, Leeds-Bradford, Middlesbrough, and Newcastle-on-Tyne; in Wales, along the south coastal strip near Newport and Swansea; and in Scotland, around Glasgow and northeast of Edinburgh.

A well-developed agricultural and horticultural market is sensitive to the impact of air pollution, but forestry is less involved as it is mainly confined to the remoter hilly areas.

Political Features

Concern about all aspects of environmental conservation is lively throughout the British public scene: the government, the major political parties, individual politicians, the communications media and several societies are all pressing for action. Most of this activity recognizes a long-term approach to the problems, including the costs involved.

A strong sense of cooperation for rational progress is evident. Improvement is generally achieved by agreement and appeals to social conscience. Where regulations exist, legal prosecution is rare, authorities preferring to keep this in reserve.

Present Controls

National

Common Law enjoins good neighborliness on all citizens but it is usually difficult to demonstrate the proof of damage necessary for success. However, specific control of air pollution in England and Wales has a long history: an Act of 1847 had a section dealing with factory smoke. In 1863, the first "Alkali Act" was passed to deal with emissions from industrial processes. This legislation was consolidated and extended by the Alkali &c Works Regulation Act 1906 and by the Alkali &c Works Order 1966. Although oddly named, the regulations apply to emissions from practically all significant air polluting types of industries--some 61, known as the Scheduled Processes. The regulations require that:

1. Scheduled Processes must be registered annually.

2. As a prior condition in the case of a first registration, the Scheduled Process must be provided, to the satisfaction of the Chief Inspector, with the 'best practicable means' for preventing the escape of noxious or offensive gases to the atmosphere and for rendering such gases harmless and inoffensive.

3. The 'best practicable means' must thereafter be maintained in good and efficient working order and must be operated continuously.

4. In the case of certain processes, upper limits are specified for the concentration of total acidity in effluent gases which may be discharged to the atmosphere.

Provision is made for the setting up and maintenance of an inspectorate (the Alkali Inspectorate) to administer the Act, and regulations are included GB.005
relating to the registration and inspection of works, general procedure, penalties, etc. The Chief Inspector is required to make an Annual Report to be laid before Parliament relating to the work of the Inspectorate.

The number of works registered at the end of 1970 was 1621, involving the operation of 2752 separate processes. Registrations vary from a small concern employing a few people to a large complex such as an oil refinery or an integrated steel works.

The Alkali Acts give the Inspectorate the right to prosecute registered firms which do not use the "best practicable means" to prevent the emission of grit, dust, fumes, smoke and gases and to render those necessarily discharged harmless and inoffensive. The Inspectorate decides, in the light of advancing technology, what is the best practicable means for any particular process. The courts have long held that the word "practicable" means not only technically possible but also economically possible for that particular firm. The Inspectors do not demand that a firm should install controls costing so much that it would have to go out of business since, if they did, this fact would be a sufficient defense in court. Thus the possibility of improvement is indirectly related to the capital resources of the firm. Legal prosecution is rare in practice.

Emissions from processes or plant not covered by the Alkali Acts and emissions from domestic and commercial furnaces are controlled by the Clean Air Acts of 1956[*] and 1968[ϕ] (which superseded earlier legislation on smoke dating from 1875 and 1926). These Acts in their essentials:

1. Set smoke emission limits for both domestic and industrial fuel usage;
2. Limit grit and dust emissions from all non-domestic sized furnaces;
3. Give powers to Local Authorities to require adequately high chimneys for furnaces in all new buildings;
4. Give powers to Local Authorities to set up Smoke Control areas (subject to the approval of the Department of the Environment).

Where a Smoke Control Order is in operation, smoke may not be emitted from premises unless the smoke arises from the use of an "authorized fuel" or the fireplace is of an exempt class. The "authorized fuels" are defined in various Regulations, and comprise: anthracite, low-volatile steam coal, various manufactured solid smokeless fuels, gas and electricity. Liquid fuels are not "authorized" as such but all fireplaces designed or adapted for their use are "exempted." Other special and proprietary fireplaces are also exempted by two 1970 Orders. All appliances, however, must be fitted and operated in accordance with manufacturers' instructions and operated so as to minimize the emission of smoke.

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[*] Northern Ireland separately in 1964.

[ϕ] Scotland separately in 1965.

Under the 1968 Act, the Minister may require a local authority to introduce Smoke Control areas. It is also illegal to sell or acquire unauthorized fuels in a Smoke Control area, unless the premises or fireplace is exempt.

For domestic premises, Local Authorities may make a grant towards the cost of converting grates, etc. to appliances suitable for smokeless use. The Authority may recover part of the grant from the central Exchequer; normally the cost of conversion will be borne by owner or occupier in the amount of 30 percent, Local Authority 30 percent, Exchequer 40 percent.

The Housing Act of 1964 and the Building Regulations of 1965 also contain provisions for clean air. New buildings can be required by Local Authorities to be equipped with approved smokeless heating and cooking appliances. Equally, Local Authorities can designate as unsuitable those appliances for which proper fuels are not fully available in the area.

The Public Health Act of 1936, as extended and amended by Public Health Acts of 1961 and 1969, also provides a basis for local action, especially where public hygiene is endangered.

Regulations affecting emissions from all types of vehicles are known as "The Motor Vehicles (Construction and Use) Regulations 1969." They require that every motor vehicle shall be so constructed that no avoidable smoke or visible vapor is emitted. A new British Standard (AU.141) defines performance and smoke [illegible] for new diesel engines; this statement is in accordance with ECE draft regulations, but more stringent than U.S. or Swedish limits. [illegible] excess-fuel device on diesel vehicles must be inoperative while the vehicle is moving. Most vehicles are subjected to regular annual or triennial inspection, but this requirement does not yet include tests of emissions.

Local

All local controls of air pollutant emissions are, with very few exceptions, based on the application of the Smokeless Zone and Chimney Height provisions of the 1956 and 1968 Clean Air Acts. The first of these provisions is discussed above.

The second [illegible] specifies that a new or enlarged heating installation [illegible] a chimney of a height approved by the Local Authority. To assist Local Authorities and others to decide on this height, the then Ministry of Housing and Local Government (now Department of the Environment) issued a "Memorandum on Chimney Heights." This document sets out a simple method of deriving the recommended height from the amount and type of fuel to be burned, including the sulfur dioxide content; neighboring buildings, local topography and existing pollution are also taken into account.

Applications for approval of chimney installations are examined both by the Local Authority's technical officers (Public Health Inspector or Smoke Inspector) and by the planning committee. At the latter stage, aesthetics may limit the chimney height and hence, indirectly, the type of permissible fuel and its sulfur content.

The City of London recently obtained an Act to limit the sulfur content of liquid fuels for new furnaces; the exact limit (about 1 percent maximum) has yet to be determined. Manchester Corporation sets a limit of 1 percent sulfur on all fuels for municipal use. These specific local regulations are exceptional.

Administration

The application of the provisions of the Clean Air Acts is largely the responsibility of the Local Authorities, especially as regards the designation and operation of the "Smokeless Zones." The officer most concerned is the Public Health Inspector, in some areas assisted by Smoke Inspectors. For air conservation work, Local Authorities are responsible to the Minister for Local Government and Development in the Department of the Environment in England, to the Secretary of State for Wales, and to the Secretary of State for Scotland.

The work of the local Public Health Inspectors is similar to that of the national Alkali Inspectorate (both report directly to the same central authorities). For new premises and pl plans are examined, discussions held with management, their engineers and architects, and advice given on how the clean air legislation can be complied with. For existing plant, the method is regular inspection, study of plant methods and examination of equipment. If local complaint is made, a special study will be carried out and local measurement of emissions may be made. The policy is one of advice and assistance, with the threat of legal action used as a final resort where cooperation cannot be secured. GB.005

Occupational safety and hygiene are the responsibility of the Factory Inspectorate, which reports to the Department of Employment and Productivity, a central government department formerly known as the Ministry of Labour. GB.040

Conformity with diesel vehicle smoke regulations is enforced by Inspectors of the Minister for Local Government and Development in the Department of the Environment.

Finance

Each organization bears it own costs.

Trends

Current Interests

Interest in all aspects of environmental conservation continues to grow in all sectors of the country. The creation of a unified government Department of the Environment is undoubtedly producing a strong coordinating effect.

Following the recommendations of the first report of the Royal Commission on Environmental Pollution, the greatest attention is being given to the protection of water resources. In air quality matters, the the government continues to concentrate on the reduction of smoke emissions from domestic, commercial and industrial sources. The considerable improvement in the atmospheric conditions in most large British towns is seen as the consequence of the previous application of this policy.

Much less significance is attached to pollution by sulfur oxides, especially from the medical point of view; the cost of damage to materials is balanced against the high national expenditure that would be needed for achieving lower sulfur oxides emissions. Reduction of urban concentrations of sulfur oxides results from a general trend away from the use of solid fuels in domestic premises and other furnaces with low stacks. A few municipalities, however, may seek Parliamentary approval for specific limitations on the sulfur content of fuels--as the City of London did in 1971 for the inner center of London.

Concern about vehicle emissions concentrates on diesel smoke, traffic "fumes" (smell), noise and lead in the environment. There is great interest in stricter controls for these emissions.

It is increasingly recognized that "personal" air pollution from tobacco smoking is a more serious threat to national health than any other air pollution smoke.

Proposed Controls

The Alkali Inspector's controls on emissions from the scheduled industries are to be tightened, and the Inspector's responsibilities progressively widened to include other industries until some three-quarters of all industrial fuel consumption comes under his control. The Secretary of State for the Environment may use his powers to require the introduction of Smoke Control Areas where local authorities have not yet seen fit to do so. A few densely urbanized municipalities may introduce Parliamentary Bills to limit the sulfur content of fuels burned in their areas, but nation-wide limits are not expected.

The diesel smoke control regulations are progressively being applied, including vehicle loading limitations, engine certification, and annual testing. New controls on car emissions are expected, based on the ECE model. Some reduction is foreseeable in the lead alkyls permitted in motor fuels. The limits on noise from motor vehicles are also to be progressively reduced.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

In October 1970, most central government offices concerned with pollution control were grouped together into a single Department of GB.002 the Environment (DoE) under a Secretary of State for the Environment. This Department acquired all the statutory powers previously held by the Ministries of Housing, Transport, and Public Building and Works. Within the DoE most conservation matters are handled by the Minister for Local Government and Development.

The Department of the Environment is concerned with national policy and priorities in conservation, including expenditures and the coordination of local activities. It is assisted by the Central Unit on Environmental GB.006 Pollution, which develops scientific advice and strategy in all aspects of conservation. The Alkali Inspectorate also reports to DoE. GB.005

At the same time as the DoE was established, the functions previously carried out by the Board of Trade and the Ministry of Technology were unified under the title of the Department of Trade and Industry (DTI). GB.009

This body is responsible for evaluating the industrial and economic consequences of conservation policies. It also coordinates the work of a number of national research centers, the Warren Spring Laboratory, National Physical Laboratory, and the Laboratory of the Government Chemist, among others. GB.039 GB.041 GB.042

The Department of Education and Science coordinates some organizations, especially the important Science Research Council and its satellites, such as the Medical Research Council and its various units. GB.030 GB.034 GB.035

The Ministry of Agriculture, Fisheries and Food is responsible for forestry and plant research. The Ministry of Defense controls the Meteorological Office and the Microbiological and Chemical Defense Establishment. GB.007 GB.032 GB.037 GB.038

Coordination between government departments is effected through the Inter-Departmental Committee and by two bodies resulting from the requirements of the relevant Clean Air Acts, the Clean Air Council and the Clean Air Council for Scotland. These organizations are administered respectively by the DoE and by the Scottish Development Department. Members include representatives of appropriate ministries, local authorities, interested conservation organizations, and significant industries--coal, electricity, oil, steel, etc. GB.001 GB.003 GB.004

In addition, a permanent Royal Commission on Environmental Pollution advises on all aspects of national conservation activity. Its reports are made public. The first, which appeared in March 1971, gave priority to problems of water conservation, but later ones are expected to deal with certain aspects of air pollution such as traffic odors and noise. The Secretary of State for the Environment has endorsed this order of priorities. GB.010

Emphasis on local government action against pollution is evident from the phrasing of the Clean Air Acts. Several Regional Clean Air Councils (etc.) have been established, especially in the "black areas" GB.011-19 where industrial air pollution has long presented problems.

The London Smog of 1952, besides being the prime initiator of the Clean Air legislation, also resulted in the establishment of the National Survey of Air Pollution. This project has involved measurements for more than a dozen years by some 500 Local Authorities at 1200 sites throughout Britain. The work of the National Survey is coordinated through the Standing Conference of Cooperating Bodies (SCCB), which receives digests and confidential reports on regional and national trends in smoke and sulfur dioxide concentrations. The SCCB, also open to members from interested industries (though these remain a small minority), provides a valued forum for the exchange of opinions between Local Authorities and Central Government.

These digests of the National Survey and also extensive and more specific measurements of air pollution in Britain are made by the Warren Spring Laboratory (WSL) which, as indicated above, is responsible to the Department of Trade and Industry. Besides its links with local authorities through SCCB, Warren Spring Laboratory also maintains contact with central and other research organizations active in air conservation work.

The Alkali Inspectorate is responsible for the enforcement of industrial emissions regulations under the Alkali &c Works Acts. Reporting to the Secretary of State for the Environment in England and Wales, and to the Secretary of State for Scotland in that country, the Chief Alkali Inspector has a staff of 35 local inspectors, all of whom have scientific training and extensive technological experience. The Alkali Inspector formulates broad general policies in respect to works and processes in the light of technical knowledge, industrial experience and economic factors. This activity sometimes involves setting up working groups with representatives of the industry concerned, their research association, and members of the Alkali Inspectorate. Standards of emissions may be decided upon and the support of industry is encouraged in enforcing the standards among members of that industry, especially through the relevant industry association. The Annual Reports of the Alkali Inspector always contain a significant section defining general and specific policy attitudes.

Surveillance for conformity to factory safety and occupational hygiene regulations comes into the area of the Factory Inspectorate, GB.040 in particular the Chemical Branch. In practice the control of materials hazardous to industrial workers often involves considerations about the possible effect on the community in the neighborhood of the factory, and this involves the Public Health Inspector of the Local Authority.

Samples of potentially hazardous materials taken by the Alkali Inspectors or the Factory Inspectors and requiring analysis are sent to the Laboratory of the Government Chemist. This is the official GB.042 reference laboratory for Britain and is required to have the broadest capabilities.

Medical research into the significance of air pollution is undertaken by the Medical Research Council, whose Air Pollution Unit under- GB.034 takes epidemiological and other research into the occurrence and effects of various pollutants (including smoke, sulfur oxides, carbon monoxide, nitrogen oxides and lead) and advises the Government accordingly.

Weather measurements and studies of turbulence and diffusion processes are made by the Meteorological Office and at several university depart- GB.032 ments, especially Imperial College, London (Professor R.S. Scorer), GB.121 Sheffield University (Professor Alice Garnett), and Edinburgh University GB.135 (Dr. A.J. Crosbie). Projects on air flow around buildings and in urban GB.116 areas are being conducted by the Building Research Station (DTI) and at GB.036 Edinburgh University. GB.114

Extensive research into the fundamentals of atmospheric chemistry and the role of aerosols is carried out by the Atomic Energy Research GB.070

Establishment (AERE) at Harwell, especially in the Health Physics Department. This work is coordinated by a committee on which the expertise of Warren Spring Laboratory is represented.

Of the many noteworthy professional associations in Britain, the Association of Public Health Inspectors (APHI) is particularly important in view of their role in the local application of the Clean Air Acts. This organization is a significant coordinating body, especially for the hygiene aspects of air pollution control.

Increasing interest in environmental conservation is reflected in the number of professional societies which have discussion groups for the subject: the Royal Institute of British Architects (RIBA) and the Royal Society of Arts to name only two.

Quite a few of the industrial and trade associations in Britain have research laboratories whose practical work is supported jointly by member companies. Some of these are: the British Iron & Steel Research Association (BISRA); the British Ceramic Research Association, which deals with the problems of brick and pottery manufacture; and the Heating & Ventilation Research Association (HVRA), which tests domestic heating appliances, including work for DOBETA, the Domestic Oil Burning Equipment Testing Association, a group set up as an independent body by the major oil companies.

In air quality conservation matters, the oil industry's association, the Institute of Petroleum (IP), is primarily an opinion-coordinating body often consulted by government on fuel quality questions. It has no research facilities but undertakes practical work in the laboratories of member companies in cooperation with other organizations (e.g., the Society of Motor Manufacturers and Traders, SMM&T) and CONCAWE.

The IP's association with SMM&T is formalized in the British Technical Council of the Motor and Petroleum Industries. This is also an important opinion-forming group, with committees and working groups for several matters of common interest to the two industries; three working groups organize cooperative work on various aspects of vehicle emissions.

The motor manufacturers also have an association, whose work includes research on emissions. This is MIRA—the Motor Industry Research Association, well-equipped with high-speed and other test tracks, as well as laboratory facilities. MIRA also provides administrative services for [illegible].

Many individual industrial organizations are active in air pollution studies. These include especially the oil companies: Esso, BP, Shell, Mobil; the vehicle manufacturers: BLMC, Rolls-Royce, Ford, Vauxhaull, Chrysler UK; and related companies, such as Associated Octel, Joseph Lucas, Richardsons, and so on.

The National Coal Board (NCB) is studying the reduction of smoke and sulfur oxides emissions. The Central Electricity Generating Board (CEGB) and its Laboratories (CERL) undertake surveys around power stations and research on improved dispersion through tall stack design.

Government support for national scientific research, including pollution problems, is coordinated through the Science Research Council (SRC) under the Department of Education and Science. In air pollution, a wide range of projects is sponsored by the Agricultural, Medical, Natural Environment, and Social Sciences Research Councils. Many of these projects are carried forward by the Research Councils themselves; others are placed with other research institutes and university departments. One of the more interesting of these projects is an economic evaluation of pollution control being undertaken by the Pollution Research Unit at the University of Manchester.

Nearly 50 other projects are under way at British Universities and Polytechnics, most on slender budgets and loosely coordinated through the Department of Education and Science. Some of these programs are mentioned above; others include work on medical and botanical aspects in appropriate departments. Many are supported by industry associations or individual companies.

A private organization of considerable influence is the National Society for Clean Air (NSCA). Founded in 1899 as a Smoke Abatement Society, the NSCA has a current membership of about 1300, comprising local authorities, firms and companies, and individuals. It has 12 regional groups, organizes annual conferences (with papers presented by government and industry speakers) and publishes technical reports (e.g., on pollution by sulfur dioxide), a quarterly journal Clean Air, and a Clean Air Year Book, containing a digest of national air quality conservation information.

A number of organizations publish abstracts of air pollution literature. The more important of these include:

Warren Spring Laboratory: Air Pollution Abstracts
Institute of Fuel: Fuel Abstracts
MIRA: Automobile Abstracts
Local Government Annotation Service, Romford, Essex
CEGB Digest
NSCA: Clean Air

GB 001 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.70 S 1

Country | No | Type | Functions | Sources | Effects | Controls | Remedies | Size | Status | Date

NAME: THE INTERDEPARTMENTAL COMMITTEE ON AIR POLLUTION RESEARCH

ACRONYM: ICAPR

See also GB.003, 004

ADDRESS
Dudley House,
Endell Street,
LONDON W.C.2.

Tel 01.836.6011

AFFIL

Title	PERSONNEL	Function
Dr.	A.J. Robinson	Chairman
Mrs.	M.L. Weatherley	Secretary (Warren Spring Lab. – [illegible])

[illegible] members representing the principal government departments concerned with AP.

AP aims and actions

[illegible] identify the researches necessary to solve problems in connection with air pollution:
(a) defined by the Clean Air Acts (GB.003, 004) [illegible] Government Departments with responsibilities in the field, or
(b) likely to require research in the future; to advise on the allocation [illegible] researches to appropriate organisations, to coordinate the work where [illegible] to keep under review the research in progress, and to report to the Clean Air Council [illegible].

Comments

GB. [illegible] Interdepartmental Comm. on Air Pollution Research [illegible]

GB [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]

Country | No | Type | Functions | Sources | Effect | Controls | Remedies | Size | Status | Date

NAME DEPARTMENT OF THE ENVIRONMENT

ACRONYM

See also GB.003-4-[illegible]

ADDRESS [illegible] Marsham Street,
LONDON SW 1.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Rt.Hon.	Peter Walker	Secretary of State
Rt.Hon.	R. Graham Page	Min.for Local Gov[illegible]
Mr.	[illegible]	Dir. [illegible]
Dr.	M. W. [illegible]	Central Unit on [illegible]
Mr.	H. Perrine	Road and Vehicle [illegible]
Mr.	F. E. Ireland	Chief Alkali Inspector

AP aims and actions

To determine strategic issues of national conservation policy and priority, including public expenditures.
To coordinate conservation activities, nationally and locally.

Comments

Established 1970 to pull together conservation activities previously scattered amongst several [illegible].

GB.002 Dept. of the Environment [illegible]

GB	003	GOV	A B [✓ C] D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	[✓ L] M S	[✓ 1] 2 3	8.71	S [✓ T]
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: CLEAN AIR COUNCIL

ACRONYM:

See also

ADDRESS: 2 Marsham Street,
LONDON SW 1.

Tel: (01) 212.3434

AFFIL: Department of the Environment.

Title	PERSONNEL	Function
Mr.	Eldon Griffiths	chairman
Mr.	G. I. Fuller	secretary

+ not more than 30 appointed members from local government, industry, and other interested groups.

AP aims and actions:

To keep under review the progress made in abating the pollution of the air in England and Wales.
To obtain the advice of persons having special knowledge, experience or responsibility in regard to the prevention of pollution of the air.

Comments:

Set up under the requirements of the Clean Air Act 1956.

GB.003 Clean Air Council 8.71

GB	004	GOV	A B [✓ C] D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	[✓ L] M S	[✓ 1] 2 3	8.71	S T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: CLEAN AIR COUNCIL FOR SCOTLAND

ACRONYM:

See also

ADDRESS: Scottish Development Dept.
21, Hill Street,
EDINBURGH 2.

Tel: 031.226.5206

AFFIL:

Title	PERSONNEL	Function
Dr.	E. A. B. Birse	chairman
Mr.	W. M. Robertson	secretary

Members pppointed from Local Autnorites, industry and other interested bodies.

AP aims and actions:

To keep under review the progress made in abating the pollution of the air in Scotland.
To obtain the advice of persons having special knowledge, experience or responsibility in regard to the prevention of pollution of the air.

Comments:

GB.004 Clean Air Council for Scotland 8.71

Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
GB	005	GOV	A B C ~~D~~ ~~E~~ F	01 ~~02~~ ~~03~~ ~~04~~ 05	11 12 13 14 ~~15~~	21 22 ~~23~~ ~~24~~ 25	~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~	~~L~~ M S	~~1~~ 2 3	8.71	S ~~1~~

NAME: ALKALI INSPECTORATE

ACRONYM:

See also

ADDRESS 2 Marsham Street,
LONDON SW 1.

Tel (01) 212.3434

AFFIL Department of the Environment.

Title	PERSONNEL	Function
Mr.	F. E. Ireland	Chief Inspector
Mr.	J. Beighton	) Deputy Chief Inspectors
Dr.	W. E. Grant	)
	+ 12 District Inspectors	
	+ 21 Inspectors	

AP aims and actions

Enforcement of the provisions of the Alkali &c Works Act by surveillance of the scheduled processes for compliance with the 'best practicable means' criterion. The Inspectorate also advises industry (and local gov't bodies) on abatement methods, and is responsible for developing new emission criteria and for bringing new processes into the ambit of the Act.
Publishes important 'Annual Report'.

Comments:

The scope of the Inspectorate is currently being expanded to cover most of the clean air aspects of industrial operation.

GB.005 Alkali Inspectorate 8.71

Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
GB	006	GOV	~~A~~ ~~B~~ C D E F	~~01~~ ~~02~~ 03 ~~04~~ ~~05~~	~~11~~ ~~12~~ ~~13~~ ~~14~~ ~~15~~	~~21~~ ~~22~~ ~~23~~ ~~24~~ ~~25~~	~~31~~ ~~32~~ ~~33~~ ~~34~~ ~~35~~	~~L~~ M S	~~1~~ 2 3	8.71	S ~~1~~

NAME: CENTRAL UNIT ON ENVIRONMENTAL POLLUTION

ACRONYM:

See also

ADDRESS Dept. of the Environment,
2 Marsham Street,
Westminster,
LONDON SW 1.

Tel (01) 212.3341

AFFIL Dept. of the Environment.

Title	PERSONNEL	Function
Dr.	M. W. Holdgate	director
Dr.	L. E. Reed	AP
	Total 8 government scientists.	

AP aims and actions:

To assist the Minister with advice on all aspects of environmental pollution.
To maintain contact with other government departments, the Research Councils, and other institutions concerned with conservation.

Comments:

GB.006 Central Unit on Environmental Pollution 8.71

GB 007 GOV ~~A~~ ~~B~~ C D E F 01 02 03 04 05 11 ~~12~~ 13 14 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S ~~1~~ 2 3 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: MINISTRY OF AGRICULTURE, FISHERIES AND FOOD:
Agricultural Advisory Services

ACRONYM: M A F F

See also

ADDRESS Great Westminster House,
Horseferry Road,
LONDON SW 1.

Tel: 01 [illegible]

AFFIL:

Title	PERSONNEL	Function
Mr.	W. R. Smith	director

AP aims and actions:
Studies of the effects of air pollution on plant growth and on animals (esp. fluorosis).
Recommended husbandry practices to alleviate effects of pollutants: field studies.

Comments:
Experimental farms and other [illegible]-stations; veterinary laboratory.

GB.007 Min. of Agriculture, Fisheries and Food 8.71

GB 008 GOV A ~~B~~ C D ~~E~~ F 01 02 03 04 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ ~~1~~ 2 3 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: DEPARTMENT OF HEALTH AND SOCIAL SECURITY

ACRONYM: D H S S

See also

ADDRESS: Alexander Fleming House,
Elephant & Castle,
LONDON SE 1.

Tel:

AFFIL:

Title	PERSONNEL	Function
Dr.	A. E. Martin	chief medical officer

AP aims and actions:
Studies of the epidemiological effects of AP.
Advice to local authority medical officers.

Comments:

GB.008 Dept. of Health & Social Security 8.71

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
GB	009	GOV	A B ~~C~~ D ~~E~~ F	01 02 03 04 05	11 12 13 14 ~~15~~	~~21~~ 22 23 24 25	31 32 33 34 35	~~L~~ M S	~~1~~ 2 3	8.71	S ~~T~~

NAME: DEPARTMENT OF TRADE AND INDUSTRY

ACRONYM: D T I

See also GB.039-42-43-44-45

ADDRESS:
Thames House,
Millbank,
LONDON SW 1.

Tel: (01) 222.7000

AFFIL:

Title	PERSONNEL	Function
Rt.Hon.	John Davies	Secretary of State
Mr.	E. C. Williams	Energy Division
Mr.	J. A. Beckett	Petroleum Division

AP aims and actions:
To evaluate the industrial and economic implications of conservation policies.
To coordinate the activities of national research centres (ex. [illegible] - GB.0[illegible], [illegible] - GB.04[illegible] etc. .

Comments:

GB.009 Dept. of Trade & Industry 8.71

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
GB	010	GOV	A ~~B~~ ~~C~~ D E F	01 02 03 04 05	~~11~~ ~~12~~ ~~13~~ 14 ~~15~~	21 22 23 24 25	31 32 33 34 35	~~L~~ M S	~~1~~ 2 3	8.71	S ~~T~~

NAME: THE ROYAL COMMISSION ON ENVIRONMENTAL POLLUTION

ACRONYM

See also

ADDRESS
Church House,
Westminster,
LONDON SW 1.

Tel:

AFFIL:

Title	PERSONNEL	Function
Sir	Eric Ashby	Chairman
Prof.	W. Beckerman	
Mr.	Aubrey Buxton	
Sir	Frank Fraser-Darling	
Mr.	Norman Iliff	
Rt.Rev.	The Bishop of Norwich	
Sir.	John Winifrith	
Prof.	V.C.Wynne-Edwards	
Miss	D.M.Wilde	secretaries
Mr.	A.C.Parsons	

AP aims and actions:
To advise the Government on matters of national and International Importance in environmental pollution; on the adequacy of research into pollution: and on possible dangers to the environment.

Comments:
First report published Feb 71: the situation analysed, priority put on water pollution, and need for cost estimates for various levels of control emphasised.

GB.010 The Royal Commission on Environmental Pollution 8.71

GB 011 REG ~~A~~ ~~B~~ C/D/E F 01 ~~02~~ 03 ~~04~~ 05 11 12 13 14,15 21 22 ~~23~~ 24 25 31 32 33 34 35 ~~L~~ M S 1 ~~2~~ 3 6.70 S ~~T~~

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: DERBYSHIRE CLEAN AIR JOINT CONSULTATIVE COMMITTEE

ACRONYM:

See also GB.029

ADDRESS: Town Clerk's Office,
Town Hall,
CHESTERFIELD

Tel.: 0246.77232

AFFIL: SCCB (GB.029)

Title	PERSONNEL	Function
	Town Clerk of Chesterfield	Secretary

AP aims and actions:

Recommends the setting up of smoke control zones in the area.
Superintends the working of smoke inspectors in the area.

Comments:

Composed mainly of local councillors.

GB.011 Derbyshire Clean Air Joint Consultative Committee 6.70

GB 012 REG A ~~B~~ C ~~D~~ ~~E~~ F 01 02 03 04 05 11 12 13 14 15 21 22 ~~23~~ 24 25 31 32 33 34 35 ~~L~~ M S 1 ~~2~~ 3 6.70 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: MANCHESTER AND DISTRICT REGIONAL CLEAN AIR COUNCIL

ACRONYM:

See also GB.029

ADDRESS: Town Hall,
MANCHESTER 2.

Tel.: (061) 236 3377

AFFIL: SCCB (GB.029)

Title	PERSONNEL	Function
	The Town Clerk	Secretary

AP aims and actions:

Recommends the setting up of smoke-control zones.
Superintends the working of the smoke inspectors

Comments:

Composed mainly of councillors from the different authorities involved.

GB.012 Manchester and District Regional Clean Air Council 6.70

GB 013 REG A [✓ B] C [✓ D] [✓ E] F 01 [✓ 02] [✓ 03] [✓ 04] 05 11 12 13 14 15 21 22 [✓ 23] 24 25 31 32 33 34 35 [✓ L] M S 1 [✓ 2] 3 6.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: MIDLANDS JOINT ADVISORY COUNCIL FOR CLEAN AIR AND NOISE CONTROL

ACRONYM:

See also GB.0[illegible]

ADDRESS The Limes,
Dudley Road,
SEDGLEY,
Staffordshire.

Tel:

AFFIL [illegible] (GB.0[illegible])

Title PERSONNEL Function

AP aims and actions:

Comments:

GB.013 Midlands Joint Advisory Council for Clean Air and Noise Control 6.70

GB 014 REG A [✓ B] C [✓ D] [✓ E] F 01 02 03 04 05 11 12 13 14 15 21 22 [✓ 23] 24 25 31 32 33 34 35 [✓ L] M S 1 [✓ 2] 3 [illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SHEFFIELD AND DISTRICT CLEAN AIR COMMITTEE

ACRONYM

See also GB.0[illegible], GB.174

ADDRESS Town Hall,
SHEFFIELD.

Tel (0742) [illegible]444

AFFIL [illegible] (GB.0[illegible]).

Title PERSONNEL Function

The Town Clerk — Secretary

Members are Councillors from the different local authorities involved.

AP aims and actions:

Recommends the setting up of smoke control zones.
Superintends the work of the Smoke Inspectors.
Encourages adoption of emission abatement measures by local industry.

Comments:

Publishes annual reports [illegible].
Is assisted by Sheffield Univ., Dept. of Fuel Tech. & Chem. Engineering (GB.174).

GB.014 Sheffield and District Clean Air Committee [illegible]

GB 015 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: TEES-SIDE CLEAN AIR COMMITTEE

ACRONYM:

See also GB.[illegible]

ADDRESS: Town Clerk's Office,
Municipal Buildings,
MIDDLESBOROUGH.

Tel: 064[illegible].45064

AFFIL: S[illegible] (GB.020)

Title	PERSONNEL	Function
	The Town Clerk	Secretary

AP aims and actions:

Recommends the setting-up of smoke control areas.
Superintends the working of the smoke inspectors.

Comments:

Composed of councillors from the different local authorities involved.

GB.015 Tees side Clean Air Committee

GB 016 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: WARWICKSHIRE CLEAN AIR COUNCIL

ACRONYM

See also

ADDRESS: Council House,
COVENTRY.

Tel.: 25555

AFFIL: SCCB (GB.0[illegible])

Title	PERSONNEL	Function
	The Town Clerk	Secretary

AP aims and actions:

Recommends the setting up of smoke control areas.
Superintends the working of the smoke inspectors.

Comments:

Composed of councillors from the local authorities involved.

GB.016 Warwickshire Clean Air Council

GB	018	REG	A ~~B~~ C ~~D~~ ~~E~~ F	01 02 03 04 05	11 12 13 14 15	21 22 ~~23~~ 24 25	31 32 33 34 35	~~L~~ M S	1 ~~2~~ 3	6.70	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: WEST LANCASHIRE AND CHESHIRE REGIONAL SMOKE ABATEMENT COMM.

ACRONYM:

See also GB.029

ADDRESS: Health Department,
Hatton Garden,
LIVERPOOL 3.

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
	Chief Public Health Inspector, Liverpool.	

AP aims and actions:

Recommends the setting-up of smoke control [illegible] Superintends [illegible] of the smoke inspectors [illegible]

Comments:

Composed of councillors from the [illegible] local authorities involved.

[illegible] Comm. [illegible]

[illegible]	[illegible]	[illegible]	A ~~B~~ C ~~D~~ ~~E~~ F	01 02 03 04 05	11 12 13 14 15	21 22 ~~23~~ 24 25	31 32 33 34 35	~~L~~ M S	1 ~~2~~ 3	[illegible]	S ~~T~~
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: WEST BROMWICH CLEAN AIR COUNCIL

ACRONYM:

See also [illegible]

ADDRESS: West Bromwich Corporation,
P.O. Box No. 40,
Town Hall,
WEST BROMWICH.

Tel

AFFIL [illegible]

Title	PERSONNEL	Function
	[illegible]	

AP aims and actions:

Recommends the setting up of smoke control areas [illegible] Superintends the work of the smoke inspectors [illegible]

Comments:

Composed mainly of councillors.

[illegible]

GB 01[illegible] REC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 X M S 1 2 3 6.76 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: WEST RIDING CLEAN AIR ADVISORY COUNCIL

ACRONYM:

See also GB.0[illegible]

ADDRESS: Public Health Department,
25, East Parade,
LEEDS 1.

Tel: [illegible]

AFFIL: SCCB (GB.0[illegible])

Title	PERSONNEL	Function
	Chief Public Health Inspector Leeds.	

AP aims and actions:

Recommends the setting up of smoke control areas [illegible]
Superintends the working of the smoke inspectors [illegible]

Comments:

[illegible]

GB.0[illegible] West Riding Clean Air Advisory Council

GB 0[illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 X M S 1 2 3 [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: STANDING CONFERENCE OF COOPERATING BODIES

ACRONYM: [illegible]

See also [illegible]

ADDRESS: Warren Spring Laboratory,
Gunnels Wood Road,
STEVENAGE,
Hertfordshire.

Tel: 0438 [illegible]

AFFIL: Min. Tech.
DOE

Title	PERSONNEL	Function
Mr.	[illegible]	Chairman
	Chairman elected annually.	

AP aims and actions:

To keep local authorities and other bodies informed of the latest developments in the field of air pollution and to provide a forum for the discussion of problems and developments.
Responsible for the operation of the National Survey of AP.
Analyses and reports on results [illegible] prepared by Warren Spring Lab. (GB.0[illegible]) for presentation at meetings.

Comments:

Composed principally of local authorities (represented by Public Health Inspectors) and other bodies (including industry) who cooperate in the National Survey of Air Pollution. Meets twice yearly.

GB.0[illegible] Standing Conference of Cooperating Bodies [illegible]

[illegible] [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 16 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.7[illegible] S 7

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME SCIENCE RESEARCH COUNCIL

ACRONYM: SRC

See also

ADDRESS [illegible] House,
[illegible],
London [illegible]

Tel: [illegible]

AFFIL: [illegible]

Title	PERSONNEL	Function
Prof.	[illegible]	Chairman
Mr.	[illegible]	Secretary

AP aims and actions

[illegible]

Comments

[illegible] [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S 7

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM [illegible]

See also

ADDRESS [illegible] House,
[illegible],
[illegible]

Tel: [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

GB [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 A M S 1 2 3 [illegible] 5 17

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME METEOROLOGICAL OFFICE. [illegible]

ACRONYM

See also [illegible]

ADDRESS London Road,
BRACKNELL,
Berkshire.

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	

AP aims and actions

[illegible]

Comments

[illegible] Meteorological Office [illegible]

GB [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 A M S 1 2 3 [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME SAFETY IN MINES RESEARCH ESTABLISHMENT

ACRONYM

See also

ADDRESS Red Hill,
Off Broad Lane,
SHEFFIELD [illegible]

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	Director
Dr.	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

AP aims and actions

Studies of the properties of [illegible]
in mines. Development of [illegible]
[illegible] for use in dusty atmospheres.
Development of instrumentation for [illegible]
nitrogen oxides, methane, [illegible].

Comments

GB.033 Safety in Mines Research Establishment [illegible]

GB 074 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 5

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME MEDICAL RESEARCH COUNCIL, Air P[illegible]

ACRONYM

See also

ADDRESS [illegible] Medical College,
St. Bartholomew's Hospital,
Charterhouse Square,
LONDON [illegible]

Tel [illegible]

AFFIL Dept. of [illegible]

Title PERSONNEL Function

[illegible] Director
Mr. [illegible]
[illegible]
[illegible]

AP aims and actions

Comments

Investigation [illegible] health [illegible] air pollution,
particularly with regard to [illegible]
Measurement of [illegible]
[illegible] lead in city air [illegible]
[illegible] in air with regard to [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

GB A B C D E F 11 35 L M S 1 2 3

Country No Type Functions Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible]
[illegible]
[illegible]
[illegible]

Tel [illegible]

AFFIL [illegible]

PERSONNEL Function

[illegible]

AP aims and actions

Comments

[illegible]
[illegible]
[illegible]

GB [illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S

Country No Type Functions Sources Effects Controls Receptors Size Status Date

NAME BUILDING RESEARCH STATION

Environmental Design [illegible]

ACRONYM

See also

ADDRESS [illegible]

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	Director of Research Station
[illegible]	[illegible]	[illegible]

AP aims and actions

Comments

Studies [illegible]
the [illegible], [illegible],
paint, [illegible], [illegible].
Studies of [illegible]
[illegible]
and [illegible]
[illegible]

[illegible]

GB [illegible] NAT A B C D E F [illegible] M S [illegible]

Country No Type Functions Effects Status Date

NAME [illegible]

ACRONYM [illegible]

ADDRESS [illegible]

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

Comments

Studies [illegible]
phot[illegible].

[illegible]

GB [illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: CHEMICAL DEFENCE EXPERIMENTAL ESTABLISHMENT

ACRONYM: CDEE

See also

ADDRESS
Porton Down,
SALISBURY,
Wiltshire.

Tel Idmiston [illegible]

AFFIL (Ministry of Defence
Army Department)

Title	PERSONNEL	Function
Mr.	E. E. Hadden	Director

AP aims and actions

[illegible]

Comments

[illegible] Chemical Defence Experimental Establishment .70

GB [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME WARREN SPRING LABORATORY

ACRONYM [illegible]

See also [illegible]

ADDRESS
[illegible] Road,
[illegible],
[illegible].

Tel [illegible]

AFFIL [illegible] of Trade [illegible]

Title	PERSONNEL	Function
Dr.	A. [illegible]	Director
Dr.	[illegible]	Dep. Director
Dr.	[illegible]	[illegible] AP [illegible]
Mr.	[illegible]	
[illegible]	[illegible]	
Dr.	A. Turner	
Mr.	D. L. [illegible]	
[illegible]	[illegible] M. App[illegible]	[illegible]

AP aims and actions

[illegible] research [illegible] on all aspects of AP. Research work includes:-
- [illegible] National Survey [illegible]
- [illegible]
- [illegible] pollutants.
- [illegible] atmospheric chemistry.
- development and testing of measurement methods.
- [illegible]
- [illegible]
- [illegible]
- [illegible] vehicles.

Comments

[illegible] with other institutions [illegible] DR/DAVY, [illegible] Medicine.

[illegible] Warren Spring Laboratory .71

FAC NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME FACTORY INSPECTORATE, CHEMICAL BRANCH

ACRONYM

See also

ADDRESS [illegible]
[illegible]
Westbourne Grove,
LONDON [illegible]

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible]	Deputy [illegible] Inspector

AP aims and actions

Development of methods of measuring low concentrations of gases. Determination of the [illegible] and reliability of gas detector tubes.

Comments

[illegible] in industrial hygiene; no direct action in [illegible] pollution.

[illegible] Factory Inspectorate, Chemical Branch

NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME FORESTRY COMMISSION, [illegible] Research Station

ACRONYM

See also

ADDRESS [illegible],
[illegible],
[illegible].

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible]	[illegible] of research

AP aims and actions

[illegible]
[illegible] rates.

Comments

[illegible] Forestry Commission [illegible]

GB 041 NAT A B C D E F 01 02 03 04 05 11 12 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LABORATORY OF THE GOVERNMENT CHEMIST

ACRONYM:
See also GB.005, 040, 042

ADDRESS: Cornwall House,
Stamford Street,
LONDON S.E.1.

Tel

AFFIL: Dept. of Trade & Industry.

Title	PERSONNEL	Function
Dr.	H. Egan	Government Chemist
Mr.	J. K. Foreman	deputy

AP aims and actions:

Examination of materials and particulate matter for asbestos and free silica on behalf of the Factory Inspectorate (GB.040).
Development of simple field tests for toxic substances in the atmosphere for the Factory Inspectorate (GB.040).
Examination of factory chimney emissions for toxic elements (fluorine, arsenic, antimony, chromium, lead, and others) on behalf of the Alkali Inspectorate (GB.005).

Comments:

Official reference laboratory for all disputes.

GB.041 Laboratory of the Government Chemist 5.71

GB 043 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: NATIONAL GAS TURBINE ESTABLISHMENT

ACRONYM: NGTE
See also

ADDRESS: Pyestock,
FARNBOROUGH,
Hampshire.

Tel 155

AFFIL: Ministry of Technology.

Title	PERSONNEL	Function
Mr.	R. H. Weir	Director

AP aims and actions:

Research into the reduction of noise and smoke from gas turbine engines.

Comments:

GB.043 National Gas Turbine Establishment 5.70

GB 044 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: NATIONAL PHYSICAL LABORATORY

ACRONYM: NPL

See also GB.074

ADDRESS: Teddington,
Middlesex.

Tel:

AFFIL: Ministry of Technology.

Title	PERSONNEL	Function
Mr.	J. V. Dunworth	Director
Mr.	R. C. Pankhurst	Supt. Aerodynamics Div.
	P. W. Bearman	

AP aims and actions:

Use of wind tunnel in designing buildings and chimneys to ensure adequate dispersion.
Development of noise measurement techniques for subsonic aircraft near airports.
Work on the effects of prolonged exposure to noise in industry with the Medical Research Council (GB.074)

Comments:

GB.044 National Physical Laboratory. 5.

GB 045 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: NATIONAL ENGINEERING LABORATORY

ACRONYM: NEL

See also

ADDRESS: East Kilbride,
Glasgow.

Tel: East Kilbride [illegible]

AFFIL: Ministry of Technology.

Title	PERSONNEL	Function
Mr.	F. [illegible]. Penny	Director
Mr.	[illegible]. P. Kirby	Superintendent, [illegible] Group.

AP aims and actions:

Research on the reduction of noise in machines.

Comments:

GB.045 National Engineering Laboratory 5.70

GB 047 RES A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME LONDON TRANSPORT BOARD: Research Department

ACRONYM

See also

ADDRESS [illegible] Chiswick High Road,
LONDON W.4.

Tel 01.[illegible]44.[illegible]641

AFFIL

Title	PERSONNEL	Function
Mr.	H. E. Styler	Director of Research

AP aims and actions:

Studies of the factors contributing to vehicle noise, exhaust smoke emission and methods of abatement.

Comments:

GB.047 London Transport Board, Research Department 5.70

GB 048 RES A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: GREATER LONDON COUNCIL SCIENTIFIC BRANCH

ACRONYM: GLC

See also

ADDRESS The County Hall,
LONDON S.E.1.

Tel: 01.633.5000

AFFIL

Title	PERSONNEL	Function
Dr.	J. G. Burgess	Scientific Adviser

AP aims and actions:

Measurements and research into air pollution and noise, including radioactive contamination and heating and ventilating problems. Studies of pollution in relation to high buildings and problems of traffic pollution in tunnels.

Acts on a consultative basis for all departments of the Council, London Borough Councils and other local authorities.

Comments:

Close liaison maintained with Mintech and other laboratories.

GB.048 Greater London Council Scientific Branch 5.70

GB 040 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ROAD RESEARCH LABORATORY

ACRONYM RRL

See also

ADDRESS CROWTHORNE,
Berkshire.

Tel [illegible]

AFFIL Dept. of the Environment

Title	PERSONNEL	Function
Mr.	A. Silverleaf	Director
Mr.	[illegible] Waters	
Mr.	P. [illegible] Sherwood	[illegible] Section
Mr.	I. [illegible] Bowers	
Mr.	D. Colwill	[illegible]

AP aims and actions:
Studies of the effects of noise, exhaust emissions etc., vibration, etc. from traffic and highways.

Comments:

GB.040 Road Research Laboratory [illegible]

GB 060 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BRITISH COAL UTILISATION RESEARCH ASSOCIATION

ACRONYM: BCURA

See also

ADDRESS BCURA Industrial Laboratories,
Randalls Road,
LEATHERHEAD,
Surrey.

Tel: [illegible].537.4411

AFFIL:

Title	PERSONNEL	Function
Dr.	[illegible]	Director of Industrial Research and Services

AP aims and actions:
Undertake on-site measurements of grit, dust and gaseous emissions and of liquid effluents.
Special expertise in combustion appliances, incineration, and pollution problems.

Comments:
Services undertaken by means of confidential contracts.

[illegible] — part of work taken on by NCB [illegible].

GB.060 British Coal Utilisation Research Association 6.71

ACM A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 [illegible] 31 32 33 34 35 L M S 1 2 3

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME BRITISH COKE RESEARCH ASSOCIATION

ACRONYM [illegible]

See also

ADDRESS
[illegible]field,
Derbyshire.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible] W. Lee	Director
Mr.	D. [illegible] Edwards	Information Officer

AP aims and actions

Investigation of air pollution problems around coke-oven plants.
Development of methods for the identification of dust and grit sources and the measurement of smoke, dust and noxious gases from coking plants.
Courses are run for training operators and staff in the minimization of smoke during oven charging.

Comments

[illegible] 1 British [illegible] Research Association [illegible]

ACM A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME BRITISH CERAMIC RESEARCH ASSOCIATION

ACRONYM [illegible]

See also

ADDRESS
[illegible] Road,
Penkhull,
Stoke-on-Trent.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible]	Director

AP aims and actions

Study of problems of smoke and fume emissions from kilns, particularly smoke from the firing of clay articles, the reduction of acid gas and fume from [illegible] kilns, and fluorine emission from pottery kilns.

Comments

[illegible] British Ceramic Research Association

A B C D E F [illegible] 11 12 13 14 15 [illegible] 34 35 [illegible] M S 1 2 3

Country No Type Functions Sources Effects Controls Remarks Size Status Date

NAME [illegible] AND [illegible] RESEARCH ASSOCIATION

ACRONYM [illegible]

See also

ADDRESS [illegible]

Tel. [illegible]

AFFIL.

Title	PERSONNEL	Function
Dr.	[illegible]	[illegible]
Dr.	[illegible]	
[illegible]	[illegible]	
Dr.	[illegible]	

AP aims and actions

Monitoring of dust emissions around steelworks.
Development of improved methods of dust collection.
Studies of removal of sulphur oxides and fluorides.
Studies of the dispersion and deposition of [illegible]
[illegible]

Comments

[illegible]

[illegible] and Steel Research Association.

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remarks Size Status Date

NAME INSTITUTE OF [illegible]

ACRONYM

See also

ADDRESS [illegible] Street,
[illegible]

Tel. [illegible]

AFFIL.

Title	PERSONNEL	Function
Dr.	[illegible]	Secretary

AP aims and actions

[illegible] Papers on pollution [illegible] frequently published in [illegible].

Comments

Probable formation of [illegible] working group in the near future.

[illegible]

A B C D E F 01 02 03 04 05 11 12 [illegible]

NAME	[illegible]	ACRONYM [illegible]
		See also
ADDRESS [illegible]	Title	PERSONNEL	Function
	[illegible]	[illegible]	[illegible]
Tel [illegible]			
AFFIL			

AP aims and actions

[illegible]

Comments

[illegible]

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 20 23 24 25 [illegible] M S 1 2 3 [illegible]

NAME	THE HEATING AND VENTILATING RESEARCH ASSOCIATION	ACRONYM [illegible]
		See also
ADDRESS [illegible]	Title	PERSONNEL	Function
	Mr. [illegible]	[illegible]	[illegible]
	Mr. [illegible]	[illegible]	[illegible]
Tel [illegible]			
AFFIL			

AP aims and actions

[illegible]

Comments

[illegible]

A B [illegible]

No. Type Function [illegible] Sources Controls Remedies Size Status Date

NAME [illegible]

ACRONYM [illegible]

See also

ADDRESS [illegible]

Tel. [illegible]

AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible] active on pollution
[illegible] and the
[illegible] the interior
[illegible].

Comments

[illegible] Institute [illegible] Heating and Ventilating Engineers [illegible]

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] EQUIPMENT TESTING ASSOCIATION LIMITED.

ACRONYM [illegible]

See also [illegible]

ADDRESS [illegible]

Tel. [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
Mr.	W. [illegible]	Secretary

AP aims and actions

[illegible] for all types of
[illegible] including smoke
and [illegible].
[illegible]
[illegible] appliances.

Comments:

Set up [illegible]
[illegible] companies.
[illegible] Heating and
Ventilating [illegible]
[illegible]. [illegible]

[illegible] Equipment Testing Association Limited [illegible]

A B C D E F [illegible]
Country No. Type Functions Sources Effects Controls Elements Size Status Date

NAME BRITISH INTERNAL COMBUSTION ENGINE RESEARCH ASSOCIATION

ACRONYM [illegible]

ADDRESS [illegible]

Title PERSONNEL Function

[illegible]

Tel

AFFIL

AP aims and actions

[illegible]

Comments

[illegible]

[illegible]

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No. Type Functions Sources Effects Controls Elements Size Status Date

NAME THE MOTOR INDUSTRY RESEARCH ASSOCIATION

ACRONYM

ADDRESS [illegible]

Title PERSONNEL Function

[illegible]

Tel

AFFIL

AP aims and actions

[illegible]

Comments

[illegible]

[illegible] Association [illegible]

GB 061 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BRITISH TECHNICAL COUNCIL OF THE MOTOR AND PETROLEUM INDS.

ACRONYM: BTC

See also GB.055 GB.060

ADDRESS c/o MIRA,
Lindley,
NUNEATON,
Warwickshire.

Tel 329[illegible]4

AFFIL IP (GB.05[illegible])
SMMT

Title	PERSONNEL	Function
Mr.	[illegible] Rosberry	Chairman, AP coordi[illegible] (MIRA - GB.0[illegible])
Mr.	J. Hoddy	Long-term WG (M[illegible])
Mr.	[illegible] Atkinson	Short-term WG ([illegible])
Mr.	[illegible] Chittau	Ana[illegible] WG ([illegible])
Mr.	[illegible] Lamarque	[illegible]

AP aims and actions:

To provide a forum for the exchange of ideas between participating companies.
To act as a "post-office" for passing information on legislation, both British and foreign.
To make recommendations to MIRA (GB.0[illegible]) for research topics.
To develop analytical methods and techniques for vehicle emissions.

Comments

Joint organisation of Institute of Petroleum (GB.0[illegible]) and Society of Motor Manufacturers and Traders.
Has three working groups for long-term, short-term and analytical developments.

GB.061 British Technical Council of the Motor and Petroleum Industries 5.70

GB [illegible] ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: CONFEDERATION OF BRITISH INDUSTRY

ACRONYM: CBI

See also

ADDRESS 21 Tothill Street,
LONDON S.W.1.

Tel (01) 930.6711

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible]	[illegible]

AP aims and actions:

To advise member industries on the implications of regulations.
To put the views of industry to Government; problems raised by members are discussed by panels of experts from various industries.

Comments:

Employers organisation.

GB.062 Confederation of British Industry 5.70

GB 067 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUTE OF OCCUPATIONAL MEDICINE

ACRONYM:

See also

ADDRESS: Roxburgh Place,
EDINBURGH.

Tel:

AFFIL: Nat. Coal Board
Univ. of Edinburgh

Title	PERSONNEL	Function
Dr.	J.M. Rogan	director
Dr.	[illegible] Hamilton	
Dr.	[illegible]	

AP aims and actions

Evaluation of health [illegible]
coal mining [illegible] pneumoconiosis [illegible]
[illegible]
[illegible] Complex.

Comments

[illegible] of Nat. [illegible]
Undertakes [illegible]
[illegible] from other [illegible]

[illegible]

GB [illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: NATIONAL INDUSTRIAL FUEL EFFICIENCY SERVICE

ACRONYM: NIFES

See also

ADDRESS: [illegible] House,
[illegible] Road,
London [illegible].

Tel: [illegible]

AFFIL:

Title	PERSONNEL	Function
Mr.	[illegible]	Managing Director
Mr.	[illegible]	Secretary
Mr.	[illegible]	[illegible]

AP aims and actions

Services [illegible] Air pollution [illegible]
and [illegible] smoke [illegible]
Training [illegible]
operators.

Comments

GB. National Industrial Fuel Efficiency Service

GB 067 ASN ~~A~~ ~~B~~ C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 5.70 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SOCIETY OF MEDICAL OFFICERS OF HEALTH:
Environmental Committee

ACRONYM:

See also

ADDRESS

Tel: 01.790.1818

AFFIL:

Title	PERSONNEL	Function
Dr.	W. G. Turner	Secretary

AP aims and actions

Deals with all matters concerning pollution brought forward by the Medical Officers.

Comments

No practical work in hand at present time but can initiate remedial health action through its officers.

GB.067 Society of Medical Officers of Health

GB 068 ASN A ~~B~~ C D ~~E~~ F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S 1 ~~2~~ 3 5.7[illegible] S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ASSOCIATION OF PUBLIC HEALTH INSPECTORS

ACRONYM: [illegible]

See also

ADDRESS 19 Grosvenor Place,
LONDON S.W.1.

Tel: 01. [illegible]

AFFIL:

Title	PERSONNEL	Function
Mr.	[illegible]	Secretary

AP aims and actions

A sub-committee of the Legal and Parliamentary Committee of the Association deals specifically with all air pollution problems affecting the public health service.

Comments

GB.068 Association of Public Health Inspectors

GB 0[illegible] ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE

ACRONYM:

See also

ADDRESS: [illegible] Portland Place,
[illegible] W.1.

Tel: [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	A. R. [illegible]	

AP aims and actions:

General interest in air pollution as it affects [illegible]
health. Interest fostered by [illegible] and
exhibitions at the Institute.

Comments:

[illegible] Health and Hy[illegible]

GB [illegible] AT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible].7[illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible] ENERGY RESEARCH [illegible]
[illegible] and [illegible]

ACRONYM: [illegible]

See also

ADDRESS: [illegible]well,
[illegible],
[illegible].

Tel: [illegible]

AFFIL

[illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	
[illegible]	[illegible]	

AP aims and actions:

[illegible] of the composition [illegible]
[illegible] in industrial Teesside; [illegible]
[illegible]
[illegible]
[illegible]
[illegible] sampling [illegible]
with [illegible]
monitoring of atmospheric [illegible]
[illegible]
[illegible]
[illegible]

Comments:

[illegible]
[illegible]
[illegible].

[illegible] Division

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME BRITISH RAILWAYS. [illegible] Department

ACRONYM

See also

ADDRESS [illegible]

Tel [illegible]

AFFIL

Title PERSONNEL Function

[illegible]

AP aims and actions

[illegible]

Comments

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME BRITISH LEYLAND MOTOR CORPORATION

Automotive Emission [illegible]

ACRONYM [illegible]

See also

ADDRESS [illegible] Cars Ltd.,
COVENTRY.

Tel [illegible] 74.[illegible]

AFFIL

Title PERSONNEL Function

Mr. W. [illegible] Chairman,
Dr. [illegible]

[illegible] of [illegible], see [illegible].

AP aims and actions

Studies on the reduction of [illegible] from internal combustion engines, by [illegible], [illegible] running conditions and [illegible].

Comments

[illegible] British Leyland Motor Corporation [illegible] British [illegible] Motor Corporation

BLMC

British Motor Group

[illegible] Group

Austin [illegible]
MG Car [illegible]

[illegible] Cars Ltd,
[illegible]
Standard-Triumph [illegible]

GB [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 4 M S 1 2 3

Country No Type Functions Sources Effects Control Pollution Size Status Date

NAME FORD MOTOR COMPANY LIMITED (GREAT BRITAIN)

ACRONYM

See also

ADDRESS Engineering [illegible]
Centre,
Laindon,
BASILDON,

Tel [illegible] 402847

AFFIL Ford USA

Title	PERSONNEL	Function
Mr.	[illegible]	Project Engineer

AP aims and actions

Studies on the reduction of emissions from automotive engines by changes in design or running conditions or catalysts.

Comments

GB.1074 Ford Motor Company Limited (Great Britain) 1.70

GB 074 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME VAUXHALL MOTOR COMPANY LIMITED

ACRONYM

See also

ADDRESS Luton,
Bedfordshire.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible] McEwan	Project Engineer

AP aims and actions

Studies on the reduction of automotive emissions by changes in design [illegible] [illegible] of [illegible].

Comments

GB.074 Vauxhall Motor Company Limited

GB 075 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ROLLS ROYCE (CAR DIVISION) LIMITED

ACRONYM

See also

ADDRESS Pym's Lane,
Crewe,
Cheshire.

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible] Astbury	Project Engineer

AP aims and actions

Studies on the reduction of emissions from automotive engines by changes in design and engine conditions.

Comments:

Now a nationalised company.

GB.075 Rolls Royce

5.71

GB 076 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ZENITH CARBURETTOR COMPANY LIMITED

Engineering Research and Applications.

ACRONYM: ERA

See also

ADDRESS: London Road,
DUNSTABLE,
Bedfordshire.

Tel 62301

AFFIL

Title	PERSONNEL	Function
Mr.	J. Windom	Director

AP aims and actions:

Studies on the reduction of emissions from automotive engines by modifications to carburettor and inlet manifold design.

Comments:

GB.076 Zenith Carburettor Company Limited 5.70

GB 077 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: RICARDO AND COMPANY LIMITED

ACRONYM

See also

ADDRESS: Bridge Works,
SHOREHAM-BY-SEA,
Sussex

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	D. Downs	Managing Director

AP aims and actions:

Studies on the reduction of emissions from automotive sources. Research is carried out on contract from manufacturers etc.

Comments:

Much work is confidential.

GB.077 Ricardo and Company Limited 5.70

GB 078 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] 5 7
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ASSOCIATED OCTEL LIMITED
ACRONYM: Octel
See also

ADDRESS: Engine Laboratories,
Watling Street,
BLETCHLEY.
Buckinghamshire.
Tel
AFFIL

Title	PERSONNEL	Function
Mr.	[illegible]	Director
Mr.	[illegible]	[illegible]
Dr.	[illegible]	[illegible]

AP aims and actions
Studies of engine design parameters which affect emissions from petrol engines, especially particulates.
[illegible] developments.

Comments

GB.078 Associated Octel Limited

GB 079 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] 5 7
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: CHRYSLER (UK) LIMITED
ACRONYM
See also

ADDRESS: Humber Road,
COVENTRY
Tel [illegible]
AFFIL [illegible]

Title	PERSONNEL	Function
Mr.	[illegible]	
Mr.	[illegible]	[illegible]

AP aims and actions:
Studies on the reduction of emissions from automotive engines by changes in design or running conditions.

Comments: [illegible]

GB.079 Chrysler (UK) Limited

GB 080 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: PETROL INJECTION LIMITED

ACRONYM:

See also

ADDRESS: Valley Road,
PLYMPTON,
Devonshire.

Tel Plymouth 36601

AFFIL [illegible]

Title	PERSONNEL	Function
Mr.	J. H. [illegible]	Research Director

AP aims and actions

Study of the influence of petrol [illegible]
automotive emissions.

Comments

GB.080 Petrol Injection Limited 5.70

GB 081 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: JOSEPH LUCAS LIMITED

ACRONYM:

See also

ADDRESS: The Radleys,
Marston Green,
BIRMINGHAM 37.

Tel: 021.779.2281

AFFIL:

Title	PERSONNEL	Function
Mr.	J. [illegible]	

AP aims and actions:

Studies on the reduction of emissions from automotive
sources by petrol injection and [illegible]

Comments:

GB.081 Joseph Lucas Limited 5.70

GB 082 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ESSO PETROLEUM COMPANY, Fawley Refinery

ACRONYM:

See also

ADDRESS: Fawley Refinery,
SOUTHAMPTON.

Tel: [illegible]

AFFIL:

Title	PERSONNEL	Function
Mr.	[illegible]	Senior Engineer - [illegible]

AP aims and actions:

Minimisation of refinery [illegible]
in terms of noise, smell, [illegible].
Research [illegible]
where [illegible].

Comments:

[illegible]

GB.082 Esso Petroleum Company, Fawley Refinery

GB [illegible]7 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ESSO PETROLEUM COMPANY, [illegible] Centre

ACRONYM:

See also: [illegible]

ADDRESS: ABINGDON,
Berkshire.

Tel: [illegible]

AFFIL: Standard Oil [illegible]

Title	PERSONNEL	Function
Dr.	[illegible] Aziz	Director
Dr.	[illegible]	Section Head - [illegible]
Dr.	[illegible]	Section Head - [illegible]
[illegible]	[illegible]	
Dr.	[illegible]	
	[illegible]	

AP aims and actions:

Effects of gasoline quality and engine modifications on
automotive emissions.
Studies of dispersion of gases from multiple [illegible]
Contribution of oil fuels to urban pollution levels.
Reduction of sulphur oxides [illegible]
means of a chemically active [illegible].

Comments:

[illegible] with [illegible]
[illegible] in Germany, France, [illegible].
[illegible]
[illegible]

GB.[illegible] Esso [illegible], [illegible] Centre

GB [illegible] IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME BRITISH PETROLEUM COMPANY LIMITED, RESEARCH CENTRE

ACRONYM

See also X.00[illegible] GB.055 GB.0[illegible]

ADDRESS Chertsey Road,
Sunbury-on-Thames,
Middlesex.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible] N. Hardingham	Manager
Mr.	[illegible]	
Mr.	[illegible] J. Ma[illegible]	

AP aims and actions

Examination of emissions from [illegible] and diesel-engined vehicles.
Limited examination of industrial emissions.
Limited study of [illegible] pollution [illegible].

Comments

Has worked on diffusion of pollution in towns.

[illegible]

[illegible] British Petroleum Company Ltd., Research Centre [illegible]

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.[illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME SHELL RESEARCH LTD., Thornton Research Centre

ACRONYM

See also GB.[illegible] GB.[illegible]

ADDRESS Thornton Research Centre,
P.O. Box 1,
Chester.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible]	Development Director
Mr.	[illegible]	
Mr.	[illegible]	

AP aims and actions

Studies of factors governing emissions from [illegible] sources to define role of the[illegible].
Development of [illegible] [illegible].
Studies of [illegible] oxides [illegible] [illegible].

Comments

[illegible] GB.00[illegible] [illegible]

GB.082. Shell Research Ltd., Thornton Research Centre [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] RESEARCH LTD., [illegible] Laboratories

ACRONYM

See also [illegible]

ADDRESS Whitehall Lane,
[illegible],
Surrey.

Tel

AFFIL

Title PERSONNEL Function

Mr. [illegible]

AP aims and actions

[illegible]
[illegible]
[illegible]
[illegible] Industrial [illegible].
[illegible] was [illegible] report.

Comments

[illegible] Shell [illegible] Central Laboratories [illegible]

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] LTD., [illegible]

ACRONYM

See also [illegible]

ADDRESS [illegible]

Tel [illegible]

AFFIL

Title PERSONNEL Function

[illegible] manager [illegible]
[illegible]
[illegible]

AP aims and actions

[illegible]
[illegible]

Comments

[illegible] Shell [illegible], Research and [illegible] Lab. [illegible]

GB 088 INT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME	DOMESTIC SOLID FUEL APPLIANCES APPROVAL COUNCIL	ACRONYM	
		See also	GB.087 GB.089
ADDRESS	19 Rochester Row, LONDON S.W.1.		
Tel	01.834.[illegible]		
AFFIL	National Coal Board		

Title	PERSONNEL	Function
Mr.	R. Godliman	

AP aims and actions

To test and approve installations for burning solid fuels including the compilation of a list of installations fulfilling requirements for smokeless zone operation.

Comments

GB.088 Domestic Solid Fuel Appliances Approval Council 5.70

GB 089 INT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME	NATIONAL COAL BOARD Coal Research Establishment	ACRONYM	N.C.B.
		See also	
ADDRESS	Stoke Orchard, CHELTENHAM, Gloucestershire.		
Tel	Bishops Cleeve 2041		
AFFIL			

Title	PERSONNEL	Function
Dr.	. Gibson	Director

AP aims and actions

Research into processes for producing smokeless solid fuels from bituminous coal; development of domestic furnaces for smokeless combustion of coal etc.
Development of fluid bed combustion technology.
Dust control in mining operations. (Studies of pneumoconiosis and other dust diseases by NCB Inst. Occup. Medicine.)

Comments

GB.089 National Coal Board 8.71

GB 090 TMD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.70 S ✓

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME CENTRAL ELECTRICITY GENERATING BOARD

ACRONYM CEGB

See also

ADDRESS Sudbury House,
15 Newgate Street,
LONDON E.C.1.

Tel 01-248.1202

AFFIL

Title	PERSONNEL	Function
Mr.	F.F. Ross	Research Coordinator
Mr.	A.J. Clarke	

AP aims and actions

Investigation of plume rise and dispersion measurements at specific Power Stations.
Site surveys of pollution around new power stations before and after commissioning.

Comments

Results of routine surveys reported to Warren Spring (GB.029) as part of National Survey.

GB.090 Central Electricity Generating Board 6.70

GB 091 TMD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S ✓

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME CENTRAL ELECTRICITY RESEARCH LABORATORIES

ACRONYM CERL

See also

ADDRESS Kelvin Avenue,
Leatherhead,
Surrey.

Tel [illegible]

AFFIL Central Electricity Generating Board

Title	PERSONNEL	Function
Dr.	D.H. Lucas	Head of Physics Department
Dr.	D.J. Moore	
	[illegible]	

AP aims and actions

Studies of plume rise and dispersion of power station plumes in co-operation with national laboratories.
Sustained investigations of the practical predictions of the effects of meteorology on plume rise and dispersion.
Development of air quality monitoring methods.
Improvements in electrostatic precipitation technology.
Reduction of dust problems during ash disposal.

Comments

GB.091 Central Electricity Research Laboratories [illegible]

GB 091 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME LAPORTE INDUSTRIES LIMITED: General Chemicals Division

ACRONYM

See also

ADDRESS
WIDNES,
Lancashire.

Tel

AFFIL Peter Spence and Sons Limited

Title	PERSONNEL	Function
Mr.	E. B. Andrews	

AP aims and actions

Development of catalytic devices for the control of atmospheric pollutants from cars.
Development of catalytic processes for the removal of sulphur dioxide from flue gases and improving industrial gaseous effluents.

Comments

GB.091 Laporte Industries Limited, General Chemicals Division 5.70

GB 092 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ROLLS-ROYCE LIMITED (Aero Engines)

ACRONYM

See also

ADDRESS
Scientific Development Dept.,
Nightingale Road,
DERBY.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible]	Manager
Mr.	[illegible]	Section Head Pollution
Mr.	J. Durant	Noise Control

AP aims and actions

Studies on the reduction of smoke and nitrogen oxides and unburned fuel emissions from jet engines by means of mechanical modifications and fuel additives.
Studies on the reduction of noise from jet engines.

Comments

GB.092 Rolls-Royce Limited (Aero Engines) 6.70

GB 094 IND [✓ A] B C D E F 01 02 03 04 05 11 12 [✓ 13] 14 15 21 22 23 24 25 31 32 33 34 35 L M [✓ S] 1 2 [✓ 3] 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BRITISH TITAN PRODUCTS LIMITED

ACRONYM:

See also

ADDRESS:
Carlton Weathering Test Stn.
Yarm Back Lane,
Hartburn,
STOCKTON-ON-TEES.

Tel:

AFFIL

Title	PERSONNEL	Function
Mr.	E. Oakley	Superintendent

AP aims and actions:

The evaluation of titanium dioxide pigments in various media for weathering and photo-degradative breakdown including measurements of atmospheric contamination.

Comments:

GB.094 British Titan Products Limited 5.70

GB 095 IND A B C D E [✓ F] 01 [✓ 02] 03 04 05 11 12 13 14 15 21 22 23 24 25 [✓ 31] 32 33 34 35 [✓ L] M S 1 [✓ 2] 3 8.7 S [✓ T]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: GAS COUNCIL: Watson House Research Division

ACRONYM:

See also

ADDRESS:
Peterborough Road,
Fulham,
LONDON, S.W.6.

Tel: 01.736.121[illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	C. [illegible]	Director
Mr.	F. A. K. Patrick	Manager of Research
Dr.	[illegible] E. D. [illegible]	

AP aims and actions:

Research into flames and combustion with emphasis on the [illegible] domestic and commercial utilization of gas.
Correlation of incidence of [illegible] with levels of AP in [illegible] Valley near Sheffield.

Comments:

[illegible] outside work (e.g. Sheffield U. Dept. [illegible] B.17[illegible]).

GB.095 Gas Council, Watson House Research Division 8.71

GB 096 IND A ~~B~~ C ~~D~~ E F 01 ~~02~~ ~~03~~ 04 05 11 12 13 14 15 21 22 23 24 25 31 ~~32~~ 33 34 ~~35~~ ~~L~~ M S 1 ~~2~~ 3 6.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: IMPERIAL CHEMICAL INDUSTRIES LIMITED

ACRONYM: ICI

See also

ADDRESS: Imperial Chemical House,
Millbank,
LONDON S.W.1.

Tel: (01) 834.4444

AFFIL:

Title	PERSONNEL	Function
Dr.	L.W. Oldham	Head Office air and water pollution Section Head
Dr.	B. Leadbetter	Agricultural Division, Billingham
Dr.	C.J. Stairmand	

AP aims and actions:

Air and water pollution sections in Head Office and in each division act in an advisory and watchdog capacity to production staff to ensure minimum pollution both inside and outside plant.

Comments:

GB.096 Imperial Chemical Industries Limited 6.70

GB 097 RES ~~A~~ B C D E ~~F~~ 01 02 03 04 05 11 12 ~~13~~ 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: RES. ASN. OF BRITISH PAINT, COLOUR & VARNISH MANUFACTURERS
Paint Research Station

ACRONYM:

See also

ADDRESS: Waldegrave Road,
TEDDINGTON,
Middlesex.

Tel: (01) [illegible]

AFFIL:

Title	PERSONNEL	Function
Dr.	Dodge	Director
Dr.	de Winter	
Mr.	Anderson	

AP aims and actions:

Studies of effects of light, weather and AP on life of paint films.

Comments:

GB.097 Res. Assn. of Brit. Paint, Colour & Varnish Mfrs. 8.71

GB 098 ASN ~~A~~ ~~B~~ C ~~D~~ E ~~F~~ 01 02 03 ~~04~~ 05 11 12 13 14 15 21 ~~22~~ 23 24 25 31 32 ~~33~~ 34 35 L M ~~S~~ 1 2 ~~3~~ 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BRITISH NON-FERROUS METALS RESEARCH ASSOCIATION

ACRONYM: BNMRA

See also

ADDRESS: Euston Street,
LONDON NW 1.

Tel: (01)387.6411

AFFIL

Title	PERSONNEL	Function
Dr.	A. [illegible] Kennedy	director

AP aims and actions:

Measurement of emissions; methods of measurement of fumes from industrial non-ferrous works.

Comments:

GB.098 British Non-Ferrous Metals Research Assn. 8.71

GB 099 ASN ~~A~~ B C D E ~~F~~ 01 02 03 ~~04~~ 05 11 12 13 14 15 21 ~~22~~ 23 24 25 31 32 ~~33~~ ~~34~~ 35 L M ~~S~~ 1 2 ~~3~~ 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: STEEL CASTINGS RESEARCH AND TRADE ASSOCIATION

ACRONYM:

See also

ADDRESS: East Bank Road,
SHEFFIELD 2,
Yorkshire.

Tel:

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible] T. Hall	director

AP aims and actions:

Dust in foundries: studies of causes, measurement and abatement.

Comments:

GB.099 Steel Castings Research ... Assn. 8.71

GB 101 SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: NATIONAL SOCIETY FOR CLEAN AIR
ACRONYM: NSCA
See also

ADDRESS: 134 North Street,
BRIGHTON.

Tel [illegible]
AFFIL

Title	PERSONNEL	Function
Adml.	P. [illegible] Sharp	Director & secretary

Members are individuals, local authorities, institutes, associations and industrial companies.

AP aims and actions:

To promote and create by publicity and otherwise an informed public opinion on the value and importance of clean air, and to initiate and encourage the investigation and research into all forms of atmospheric pollution in order to achieve its reduction or prevention.

Comments:

Derives from a Society founded in [illegible]. Is a voluntary body with no official grant.
Also has 12 regional groups in GB.
Arranges regional and national conferences and exhibitions.
Publishes "Clean Air" (Q'ly. 30p) and "Clean Air Year Book".
Member of IUAPPA (X.023).

GB.101 National Society for Clean Air 3.71

GB 102 SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ROYAL SOCIETY OF HEALTH
ACRONYM: RSH
See also

ADDRESS: 90 Buckingham Palace Road,
LONDON S.W.1.

Tel 01.730.5134
AFFIL

Title	PERSONNEL	Function
Mr.	T. A. Wells	Secretary

AP aims and actions:

Promotes discussion and lectures on health aspects of pollution.

Comments:

GB.102 Royal Society of Health 5.70

GB 103 300 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ROYAL SOCIETY OF ARTS

ACRONYM: RSA

See also

ADDRESS: 6-8 John Adam Street,
LONDON W.C.2.

Tel: 01.[illegible].2366

AFFIL:

Title	PERSONNEL	Function
Mr.	[illegible] Mercer	Secretary

AP aims and actions:

Promotes discussion and lectures on aspects of air pollution.

Comments:

GB.103 Royal Society of Arts 5.70

GB 104 300 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: THE WOMEN'S ADVISORY COUNCIL ON SOLID FUEL

ACRONYM

See also GB.

ADDRESS: [illegible] South Molton Street,
LONDON W.1.

Tel: 01.[illegible]

AFFIL:

Title	PERSONNEL	Function
Miss	Cruttenden	Secretary

AP aims and actions:

Promotes use of solid fuels (smokeless when possible) for domestic use, through lectures and demonstrations to women's organisations.

Comments:

Independent organisation but comes under auspices of the Coal Utilisation Council.

GB.104 The Women's Advisory Council on Solid Fuel 5.70

GB 105 SOC A ~~B~~ C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L ~~M~~ S 1 2 ~~3~~ 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INCORPORATED ASSOCIATION OF ARCHITECTS AND SURVEYORS

ACRONYM:

See also

ADDRESS: 29 Belgrave Square,
LONDON S.W.1.

Tel: 01.235.3755

AFFIL:

Title	PERSONNEL	Function
Mr.	K. Hay	Secretary
Mr.	Rayner	Information Officer
Mr.	Myles White	Chairman-Working Party

AP aims and actions:

Working party on conservation, including atmospheric pollution.

Comments:

GB.105 Incorporated Association of Architects and Surveyors 5.70

GB 106 SOC A B C D E ~~F~~ 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S 1 ~~2~~ 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BRITISH MEDICAL ASSOCIATION

ACRONYM: BMA

See also

ADDRESS: BMA House,
Tavistock Square,
LONDON W.C.1.

Tel: 01.[illegible].4499

AFFIL:

Title	PERSONNEL	Function
Dr.	[illegible]. A. Field	Secretary - Pollution Health Committee
[illegible]	[illegible]. Currer	Secretary - Occupational Health Committee

AP aims and actions:

Air pollution matters raised by members are discussed by the Public Health Committee or the Occupational Health Committee.
Where action is required BMA Council make representations to appropriate bodies.

Comments:

GB.106 British Medical Association 5.70

GB	107	SOC	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	5.70		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		

NAME: DISTRICT HEATING ASSOCIATION

ACRONYM:

See also

ADDRESS: Derbyshire House,
St. Chad's Street,
LONDON W.C.1.

Tel: 01.278.1964

AFFIL:

Title	PERSONNEL	Function
Mr.	A. W. Brown	

AP aims and actions:

To further the cause of district heating in principle and practice, to create an informed public opinion on the value and importance of district heating.

To originate and propose improvements in the law to facilitate and encourage the development of district heating.

Comments:

GB.107 District Heating Association 5.70

GB	108	SOC	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	6.70		S T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		

NAME: ROYAL INSTITUTE OF BRITISH ARCHITECTS

ACRONYM: RIBA

See also

ADDRESS: 66 Portland Place,
LONDON W.1.

Tel.: 01.580.5533

AFFIL:

Title	PERSONNEL	Function
Mr.	F. K. Harrison	Secretary

AP aims and actions:

Interest in pollution stimulated by meetings, papers etc.

Comments:

GB.108 Royal Institute of British Architects 6.70

GB 109 SOC A ~~B~~ C D E ~~F~~ 01 02 03 04 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S 1 2 ~~3~~ 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BRITISH OCCUPATIONAL HYGIENE SOCIETY

ACRONYM:

See also

ADDRESS: Nuffield Dept. of Ind. Health,
Medical School,
NEWCASTLE-ON-TYNE,

Tel: (0632) 28511

AFFIL:

Title	PERSONNEL	Function
Mr.	D. Murphy	Hon. Secretary

AP aims and actions:

Acts as a forum for hygienists on air pollution matters.
Frequent papers on pollution are presented.

Comments:

GB.109 British Occupational Hygiene Society 8.71

GB 110 SOC A ~~B~~ C D E ~~F~~ 01 02 03 04 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S 1 2 ~~3~~ 6.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SOCIETY OF OCCUPATIONAL MEDICINE

ACRONYM:

See also

ADDRESS: 11 St. Andrew Place,
Regents Park,
LONDON N.W.1.

Tel: (01) 486.2641

AFFIL:

Title	PERSONNEL	Function
Dr	P. Swann	Hon. Secretary

AP aims and actions:

Acts as a forum on air pollution matters.
Papers and discussions on pollution are encouraged.

Comments:

GB.110 Society of Occupational Medicine 6.70

GB 111 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BLACKBURN COLLEGE OF TECHNOLOGY AND DESIGN

ACRONYM:

See also GB.0[illegible]

ADDRESS: Department of Pure and
Applied Science,
Blackburn, BB[illegible],
Lancashire.

Tel: 54111

AFFIL.

Title	PERSONNEL	Function
Mr.	S. Hargreaves	Senior Lecturer

AP aims and actions

Analyses of local National Survey smoke filters for lead, copper, [illegible] and [illegible] by [illegible] absorption methods. Data [illegible]
Has had M.Sc. [illegible] determining [illegible] hydrocarbons on [illegible] filters.

Comments

[illegible]

GB.111 Blackburn College of Technology and Design 5.7[illegible]

GB 11[illegible] A T A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible] HOSPITAL

ACRONYM

See also

ADDRESS: [illegible]
Park [illegible]
London, [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
	[illegible] F. Hall	
	W. McNicol	

AP aims and actions

Epidemiological studies in relation to [illegible] chest diseases and atmospheric pollution in London.

Comments

[illegible] Middlesex Hospital 5.70

GB 117 ACP A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: EDINBURGH U, Dept. of Agriculture.

ACRONYM:

See also

ADDRESS: Old College,
South Bridge,
EDINBURGH 8.

Tel: (031) 667.1011

AFFIL:

Title	PERSONNEL	Function
	D. Purves	
Dr.	J. Mackenzie	

AP aims and actions

Studies of trace elements (B, Pb, Cu) in rain water and soils around Edinburgh.

Comments:

GB.117 Edinburgh U: Dept. of Agriculture 5.70

GB 114 ACP A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: EDINBURGH UNIVERSITY, Sch. of Architectural Studies

ACRONYM:

See also

ADDRESS: Old College,
South Bridge,
EDINBURGH 8.

Tel: (031) 667.1011

AFFIL:

Title	PERSONNEL	Function
Prof.	[illegible].B. Wilson	
Dr.	[illegible]. Morgan	

AP aims and actions:

Studies of air flow around buildings and overall winds for the better design and location of new buildings.

Comments:

Has created informal group of "Experts on the Built Environment" from schools of Architecture, Geography, Civil Eng'g, Urban Design, etc.

Plans conference on this in Edinburgh in 1971.

GB.114 Edinburgh University, Sch. of Architectural Studies 5.70

GB 115 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: EDINBURGH U, Dept. of Botany

ACRONYM:

See also

ADDRESS: Old College,
South Bridge,
EDINBURGH 8.

Tel: (031) 667.1011

AFFIL:

Title	PERSONNEL	Function
Dr.	W. Blythe	Lecturer

AP aims and actions:

Studies of pollen and respiratory diseases.

Comments:

GB.115 Edinburgh U: Dept. of Botany 3.70

GB 116 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: EDINBURGH UNIVERSITY, Department of Geography

ACRONYM:

See also

ADDRESS: [illegible] Yards,
[illegible] 1 1NR.

Tel: (031) 667.1011

AFFIL: U. of Edinburgh

Title	PERSONNEL	Function
Dr.	A. J. Crosbie	
assisted by:-		
Mrs.	N. J. Crosbie	senior research assistant
Mr.	J. H. A. Dick	research assistant
	total 4 P/NP + 1 student	

AP aims and actions:

Survey of ambient AP in Edinburgh as function of topography, temperature, meteorology and categories of fuel usage, with aid of computer.
Studies of local sea mist and pollutants.

Comments:

Interest in regional pollutant inventories, changes brought about by legislation, and the significance of AP for urban planning.

GB.116 Edinburgh University, Dept. of Geography 3.70

GB 117 ACD A B C D E F 01 02 03 04 06 11 12 13 14 15 21 22 23 24 26 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LANCASTER COLLEGE OF TECHNOLOGY

ACRONYM:

See also

ADDRESS: Science Department,
Cross Hill,
LANCASTER.

Tel: 66215

AFFIL:

Title	PERSONNEL	Function
Dr.	Francis Turner	Head of department

AP aims and actions:

Study of the relative importance of marine and urban sources of airborne salt particles with reference to the respirable fraction. Includes the determination of size distribution and chemical composition and the correlation of results with meteorological factors.

Comments:

GB.117 Lancaster College of Technology 5.70

GB 118 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LANCASTER UNIVERSITY, Department of Environmental Sciences.

ACRONYM

See also

ADDRESS: University House,
Bailrigg,
LANCASTER.

Tel: 65201

AFFIL:

Title	PERSONNEL	Function
Mr.	P. Larsson	Lecturer
Dr.	R. A. Mansfield	Biology Dept.

AP aims and actions:

Studies of radiation climatology with reference to atmospheric pollution in North West England.
Use of radar meteorology and constant-level balloons to follow dispersion.
Studies of the effects of pollution on vegetation.

Comments:

GB.118 Lancaster University, Dept. of Environmental Sciences 8.71

GB 119 ACD ~~A~~ B C D E F ~~01~~ 02 03 04 05 11 12 13 14 15 21 22 23 24 25 ~~31~~ 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LONDON UNIVERSITY, Imperial College of Sci. and Technology
Department of Thermodynamics and Fluid Mechanics.

ACRONYM:

See also

ADDRESS: Prince Consort Road,
LONDON S.W.7.

Tel 01.589.5111

AFFIL

Title	PERSONNEL	Function
Mr.	N.P.W.Moore	Reader

AP aims and actions

Experimental and analytical studies of [illegible] compression-ignition of fuel-air mixtures and [illegible] the identification and measurement of hydrocarbons and hydrocarbon derivative in the exhaust of compression-ignition engines, including [illegible] systems.

Comments

GB.119 London University, Imperial College of Sc. and Tech. 8.71

GB [illegible] ~~A~~ B C D E F 01 02 03 04 05 11 12 13 14 15 21 ~~22~~ 23 ~~24~~ ~~25~~ 31 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LONDON U., Imperial College of Science and Technology
[illegible] Chemical Engineering and Chemical Technology

ACRONYM

See also

ADDRESS Prince Consort Road,
LONDON S.W.7.

Tel 01.589.5111

AFFIL

Title	PERSONNEL	Function
Dr.	M. [illegible] Wilson	Senior lecturer

AP aims and actions

Development of a new photometric method for measurement of very low concentrations of [illegible] compounds in air.
Development of method of measuring [illegible] particles with [illegible] metal [illegible].
Studies of the removal of atmospheric pollutants by natural processes.
Response of the human body to [illegible].

Comments

GB.120 London U. Imp. Coll. Sci. & Tech. 8.71

GB 121 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible].71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LONDON UNIVERSITY, Imperial College of Sci. and Technology
Department of Mathematics

ACRONYM:

See also

ADDRESS: Prince Consort Road,
LONDON S.W.7.

Tel: (01) 589.5111

AFFIL:

Title	PERSONNEL	Function
Prof.	R. S. Scorer	Professor of Theoretical Mechanics.

AP aims and actions:

Studies of air pollution and meteorology, with particular reference to the use of dispersion equations and the use of photography.

Comments:

Acts as consultant in public enquiries for new power stations, refineries etc.

GB.121 London University, Imperial College of Sc. & Tech. .71

GB 122 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LONDON UNIVERSITY, School of Hygiene and Tropical Medicine
Department of Occupational Health

ACRONYM:

See also

ADDRESS: Keppel Street,
LONDON W.C.1.

Tel: (01) 636.8636

AFFIL:

Title	PERSONNEL	Function
Prof.	R.S.F. Schilling	Head of Dept.
Dr.	S.A. Roach	Reader

AP aims and actions:

Environmental studies of the textile and asbestos industries.

Development of methods for measuring air contaminants.

Comments

Mainly concerned with industrial hygiene.

GB.122 London U., Sch. of Hyg. & Trop. Med: Dept. Occup. Hlth. 5.70

GB 123 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LONDON UNIVERSITY, School of Hygiene and Tropical Medicine.
Department of Medical Statistics and Epidemiology

ACRONYM:

See also

ADDRESS: Gower Street,
LONDON W.C.1.

Tel: 01.[illegible]6

AFFIL

Title	PERSONNEL	Function
Prof.	D.D. Reid	Director
	J.R.T. Colley	Senior Lecturer

AP aims and actions

Surveys of respiratory conditions in [illegible] areas from different social and local environments with emphasis on air pollution.

Comments

Sponsored by the Tobacco Research Council.

GB.1[illegible] London U., Sch. of Hyg. & Trop. Med: Dept. Med. Statistics [illegible]

GB [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LONDON U., Imperial College of Science and Technology
Dept. of Civil Engineering

ACRONYM

See also

ADDRESS Prince Consort Road,
LONDON S.W.7.

Tel: (01) [illegible].5111

AFFIL

Title	PERSONNEL	Function
Dr.	R. Perry	
	[illegible] Thompson	

AP aims and actions

Studies of the formation of polycyclic aromatics and carcinogenic substances by pyrolysis during combustion and in industrial processes.
Measurements (and analysis) of AP in urban streets.

Comments:

GB.124 London U. Imp. Coll. Sci. Tech., Civil Engineering 5.[illegible]1

GB 125 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LONDON UNIVERSITY, UNIVERSITY COLLEGE
Department of Geography

ACRONYM:

See also

ADDRESS: Gower Street,
LONDON W.C.1.

Tel: 01.387.7050

AFFIL:

Title	PERSONNEL	Function
Prof.	T.J. Chandler	
Mrs.	P. M. Anderson	

AP aims and actions:

Studies have been made of the spatial distribution of pollution in urban areas (London, Leicester). The distribution of pollution in different air streams over rural areas is now being studied with possible extension to pollution drift on a national scale.

Comments:

GB.125 London University, University College, Dept. of Geography 8.71

GB 126 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY
Department of Electrical Engineering

ACRONYM:

See also

ADDRESS: LOUGHBOROUGH,
Leicestershire.

Tel: 4171

AFFIL:

Title	PERSONNEL	Function
Dr.	.M. Richards	Lecturer
	+ research assistant part-time.	

AP aims and actions:

Study of turbulent diffusive processes in the atmosphere using liquid model experiments to simulate the diffusion patterns from instantaneous and continuous services under different conditions of atmospheric stratification.

Comments:

Present programme almost complete; future plans now being formulated.

GB.126 Loughborough U. of Tech., Dept. of Electrical Engineering 5.70

GB 127 ACD ~~A~~ B C D E F 01 02 03 04 ~~05~~ 11 ~~12~~ 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF NEWCASTLE UPON TYNE, Department of Botany

ACRONYM:

See also

ADDRESS: NEWCASTLE UPON-TYNE 1.

Tel: 28511

AFFIL:

Title	PERSONNEL	Function
Dr.	A.W. Davison	Lecturer
Dr.	O. L. Gilbert	

AP aims and actions:

Studies of fluoride contamination of plants around a new aluminium smelter and on Tyneside generally.

Similar studies of zinc uptake by plants, and the value of vegetation as biological indicators for pollution.

Comments:

GB.127 University of Newcastle Upon Tyne, Dept. of Botany 8.71

GB 128 ACD A B C D E F 01 02 03 ~~04~~ 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 ~~34~~ 35 L M ~~S~~ 1 2 ~~3~~ 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF NEWCASTLE UPON TYNE,

Department of Industrial Health

ACRONYM

See also

ADDRESS: NEWCASTLE-UPON-TYNE 1.

Tel: (0632) 28511

AFFIL:

Title	PERSONNEL	Function
Prof.	[illegible] Browne	

AP aims and actions:

Study of toxic thermal degradation products generated during welding and flame cutting.

Comments:

GB.128 University of Newcastle-upon-Tyne, Dept. of Ind. Health 8.71

GB 1[illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: PORTSMOUTH COLLEGE OF TECHNOLOGY, Dept. of Biological Science

ACRONYM:

See also

ADDRESS: Hampshire Terrace,
PORTSMOUTH,
Hampshire.

Tel: [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	F.N. Haynes	

AP aims and actions:

Research into the effect of air pollution on lichens with particular reference to the New Forest and Southampton water areas.

Measurement of the absorption of air pollutants by belts of forest.

Comments

GB.[illegible] Portsmouth College of Technology, Dept. of Biol. Science. 5.70

GB 130 ACT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: READING UNIVERSITY, Department of Geography.

ACRONYM:

See also GB.084

ADDRESS: Whiteknights Park,
READING,
Berkshire.

Tel: [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	M. Parry	Senior Lecturer

AP aims and actions:

Meteorological factors affecting dispersion of AP in Reading.

Measurements of air pollutants in streets.

Comments:

Cooperated with British Petroleum (GB.084) in their Reading Survey - 19[illegible].

GB.130 Reading University, Department of Geography 8.71

GB 171 [illegible] A B C D E F 01 02 03 04 05 [✓ 11] 12 13 14 15 21 22 23 24 25 31 32 33 34 35 [✓ L] M S 1 [✓ 2] 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ST. THOMAS'S HOSPITAL MEDICAL SCHOOL

Department of Clinical Epidemiology and Social Medicine

ACRONYM:

See also

ADDRESS: LONDON S.E.1.

Tel.: 01.[illegible].9292

AFFIL:

Title	PERSONNEL	Function
Prof.	W.W. Holland	Director
	J.R.T. Colley	
	4 graduate staff	
	+ 6 full time assistants	

AP aims and actions:

(1) Study of respiratory symptoms in a sample of young families in N. London chosen from different environments and social classes.

(2) Study of respiratory disease and lung function in school children in Kent living in areas with different levels of pollution.

Comments:

(2) being carried out in cooperation with local Medical Officers of Health.

GB.1[illegible] St. Thomas's Hospital Medical School, Dept. of ... Soc. Med. 5.70

GB [illegible] [illegible] [✓ A] [✓ B] C D E F 01 02 03 04 05 11 12 13 14 15 21 [✓ 22] 23 [✓ 24] 25 31 32 33 34 35 L [✓ M] S 1 [✓ 2] 3 [illegible].71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF SALFORD, [illegible] of Environmental Studies

ACRONYM:

See also

ADDRESS: SALFORD, Lancashire.

Tel.: [illegible]

AFFIL:

Title	PERSONNEL	Function
Prof.	[illegible] Constantine	
Dr.	D. [illegible] [illegible]	
Mr.	[illegible] Griffiths	
Mr.	[illegible] Thomas	
Mr.	J. W. Rhodes	

AP aims and actions:

[illegible] smoke and SO2 in [illegible] areas.

Comments:

[illegible] on AP for industrial, local authority and public health groups.

GB.1[illegible] Salford U. [illegible] Environmental Studies 8.71

GB 174 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S I
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SHEFFIELD U., Dept. of Fuel Technology and Chemical Eng'g.

ACRONYM:

See also

ADDRESS: Newcastle Street,
SHEFFIELD 1,

Tel: [illegible]

AFFIL:

Title	PERSONNEL	Function
Prof.	J. M. Beer	Head of Department
Dr.	E. Rothwell	Senior Lecturer
Dr.	A. B. Hedley	Lecturer
Dr.	D. J. Brown	Lecturer
	+ students	

AP aims and actions:

Studies on:
- ° Formation of oxides of nitrogen in combustion systems.
- ° Condensation [illegible] [illegible] metal [illegible].
- ° Filtration of [illegible].
- ° [illegible].

Comments: [illegible]

GB.174 Sheffield U., Dept. of Fuel Tech. & Chem. Eng'g.

GB 17[illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2,3 S I
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SHEFFIELD UNIVERSITY, Department of Preventive Medicine and Public Health.

ACRONYM:

See also

ADDRESS: [illegible]
SHEFFIELD [illegible]

Tel:

AFFIL:

Title	PERSONNEL	Function
Dr.	[illegible]	Lecturer

AP aims and actions:

Study of respiratory ailments amongst school children in Sheffield in relation to atmospheric pollution data. Data now being analysed.

Comments: [illegible] Geography Department [illegible] local authority.

GB.17[illegible] Sheffield U., Dept. of Preventive Medicine & Public Health

GB 145 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S A

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SHEFFIELD UNIVERSITY, Geography Department

ACRONYM:

See also GB.039 GB.[illegible]

ADDRESS:
SHEFFIELD 1.

Tel 0742.78555

AFFIL:

Title	PERSONNEL	Function
Prof	A. Garnett	Emeritus Prof.
	total: 6 F/[illegible] + 1 post graduate	

AP aims and actions:

Survey of SO2 and smoke in Sheffield with particular reference to topography and meteorology

Comments:

Survey was being done under contract to Warren Spring Laboratory (GB.[illegible]); now sponsored by Gas Council (GB.090) and others.

GB.145 Sheffield University, Geography Department 5.70

GB 146 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF STRATHCLYDE, Dept. of Pure and Applied Chem.

ACRONYM:

See also

ADDRESS GLASGOW, C.1

Tel (041) 552.4400

AFFIL

Title	PERSONNEL	Function
Dr.	[illegible]. Gibb	Senior Lecturer

AP aims and actions:

Studies of the formation of nitrogen oxides in internal combustion engines.
Construction of computer programmes for the prediction of stack heights.
Removal of sulphur from gas and oil fuels.

Comments:

GB.146 University of Strathclyde, Dept. of Pure and Applied Chem. 8.71

GB	137	ACD	~~A~~	B	C	D	E	F	01	02	03	04	05	11	~~12~~	13	14	15	21	22	23	24	25	31	32	33	34	35	L	M	~~S~~	1	2	~~3~~	5.70	S	T
Country	No	Type	Functions						Sources					Effects					Controls					Remedies					Size			Status			Date		

NAME: UNIVERSITY OF STRATHCLYDE, Department of Geography

ACRONYM:

See also

ADDRESS GLASGOW C.1

Tel (041) 552.4400

AFFIL

Title	PERSONNEL	Function
Mr.	G. Jones	
Mr.	M.B. Moss	Assistant Lecturer

AP aims and actions:

Studies of the effects of SO_2 pollution on vegetation around Milford Haven.

Studies of the effects of emissions from iron and steel works on coniferous trees.

Comments:

Practical work finished; thesis in preparation.

GB.137 University of Strathclyde, Dept. of Geography 5.70

GB	138	ACD	~~A~~	B	C	D	E	F	01	02	03	04	~~05~~	~~11~~	12	13	14	15	21	22	23	24	25	31	32	33	34	35	L	M	~~S~~	1	2	~~3~~	5.70	S	T
Country	No	Type	Functions						Sources					Effects					Controls					Remedies					Size			Status			Date		

NAME: UNIVERSITY OF NEWCASTLE UPON-TYNE, Dept. of Industrial Health

ACRONYM:

See also

ADDRESS NEWCASTLE-UPON-TYNE 1.

Tel 511

AFFIL

Title	PERSONNEL	Function
Prof.	R.C. Browne	Nuffield Professor

AP aims and actions:

Study of fumes from welding processes and inorganic dust contamination, with particular reference to asbestos, and associated health effects.

Comments:

Small part of large research programme on engineering.

GB.138 University of Newcastle-upon-Tyne, Dept. of Industrial Health 5.70

179 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.76 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF WALES, University College, Mining Department

ACRONYM:

See also

ADDRESS University College,
[illegible].

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	K.M. Brown	Senior Lecturer

AP aims and actions

[illegible]
[illegible].

Comments

[illegible], University College, [illegible] Department

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF WALES, [illegible] National School of Medicine
[illegible]

ACRONYM:

See also

ADDRESS [illegible].

Tel

AFFIL

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
	[illegible]	

AP aims and actions

[illegible]
[illegible]
[illegible].
[illegible]
[illegible]
[illegible].
[illegible]
[illegible] works.

Comments:

[illegible]
[illegible] Foundation [illegible] 1974-[illegible].

[illegible] University of Wales, Welsh National School of Medicine 5.[illegible]

141 APD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME UNIVERSITY OF WALES, Institute of Science and Technology

ACRONYM

See also GB.031

ADDRESS Department of Applied Biology,
[illegible] Park,

Tel.

AFFIL

Title	PERSONNEL	Function
Prof.	R. W. Edwards	Head of Department
Dr.	[illegible] H. Williams	Lecturer
	[illegible] Post-doctorate Students.	

AP aims and actions

Comments

[illegible] National Environment Research [illegible]

[illegible] December, [illegible]

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] UNIVERSITY; [illegible]

ACRONYM

See also

ADDRESS [illegible]

Tel.

AFFIL

Title	PERSONNEL	Function
[illegible]	M. [illegible]	
Prof.	[illegible]	
Dr.	[illegible]	

AP aims and actions

Comments

[illegible] Mary College [illegible]

GB 143 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: BRIGHTON POLYTECHNIC

ACRONYM:

See also

ADDRESS Department of Civil Engineering and Building,
BRIGHTON.

Tel: [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	Baddeley	
Mr.	[illegible]. Lewis	

AP aims and actions: Studies of the general effects of pollution on people, with particular reference to effects of automobile exhaust gases on asthmatics and SO2 on bronchitis sufferers.

Comments:

GB.143 Brighton Polytechnic 6.70

GB 144 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME PLYMOUTH COLLEGE OF TECHNOLOGY: Department of Mech. Eng'g.

ACRONYM:

See also

ADDRESS Plym.

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible].C. Thomas	
Mr.	[illegible].J. Goodman	

AP aims and actions: Studying the effect of petrol injection on automobile exhaust emissions.

Comments: Project not yet active but facilities being obtained.

GB.144 Plymouth College of Technology, Dept. of Mech. Eng'g. 5.70

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	S	T
GB	145	ACD	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	8.71		

NAME: UNIVERSITY OF DURHAM, Dept. of Geography

ACRONYM:

See also

ADDRESS South Road,
DURHAM.
Co. Durham.

Tel

AFFIL:

Title	PERSONNEL	Function
Prof.	W. B. Fisher	

AP aims and actions:

Studies of air pollution in relation to weather and climate [illegible]

Comments:

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	S	T
GB	146	ACD	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	6.	S	T

NAME: CENTRE FOR ENVIRONMENTAL STUDIES

ACRONYM:

See also

ADDRESS 5 Cambridge Terrace,
Regents Park,
LONDON N.W.1.

Tel: (01) [illegible]

AFFIL:

Title	PERSONNEL	Function
Prof.	D. Donnison	Director

AP aims and actions:

Sponsors research into the influence of pollution on town planning

Comments:

Mainly concerned with town planning.
Gave grant to Sheffield University (Geog. Dept.) for 1968-[illegible] (GB.1[illegible])
Financed by Ford Foundation and UK Government.

GB.146 Centre for Environmental Studies 6.70

GB	147	ACD	A ~~B~~ C D E F	01 02 03 04 05	11 ~~12~~ 13 14 15	21 22 23 24 25	~~31~~ ~~32~~ 33 34 35	L M S	1 ~~2~~ 3	6.70	S T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: COLLEGE OF FUEL TECHNOLOGY

ACRONYM:

See also GB.035

ADDRESS: 90 Talbot Road,
Highgate,
LONDON N.6

Tel: (01) 340.6972

AFFIL:

Title	PERSONNEL	Function
Mr.	A. Coe	Principal

AP aims and actions:

Training college for all aspects of fuel technology. Operates technical information office to local authorities and provides consultancy service when required.

Comments:

Was operating training scheme for NIFES (GB.[illegible]) but NIFES now withdrawn from scheme.

[illegible].147 College of Fuel Technology 6.

GB	148	ACT	~~A~~ B C D E F	~~01~~ 02 03 04 ~~05~~	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 ~~2~~ 3	[illegible]	S T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: U. SOUTHAMPTON, Inst. of Sound and Vibration Research

ACRONYM: I.S.V.R.

See also

ADDRESS: [illegible],
SOUTHAMPTON.

Tel: [illegible]

AFFIL:

Title	PERSONNEL	Function
Prof.	B. L. Clarkson	vibration
Prof.	J. B. Large	acoustics
Prof.	T. Priede	engines

AP aims and actions:

Wide-ranging research into the causes of noise and vibration in engineering; studies of the effects of engine design variations on noise control.

Comments:

Leading British centre for this sort of work. Supported by engineering and oil companies; associated with BICERI (GB.059).

GB.148 U. Southampton, I.S.V.R .71

GB	140	ACD	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	4.71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: UNIVERSITY OF ASTON, Chemical Engineering Department

ACRONYM:

See also

ADDRESS Gosta Green,
BIRMINGHAM 4.

Tel: (021) 359.3611

AFFIL:

Title	PERSONNEL	Function
Prof.	G. V. Jeffreys	Head of Dept.
Dr.	G. Temple	

AP aims and actions:

Studies of mixture distribution in gasoline-carburetted engines, and effects on CO emissions.
The effectiveness of catalytic exhaust mufflers for reducing vehicle emissions.

Comments:

Undertaking some work on commission for BLMC (GB.072) and Esso (GB.083).

GB.140 University of Aston, Chemical Engineering Dept. 4.71

GB	[illegible]		A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	3.71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME UNIVERSITY OF MANCHESTER, Dept. of Economics
Pollution Research Unit

ACRONYM:

See also

ADDRESS Dover Street Building,
Oxford Road,
MANCHESTER 13.

Tel (061) [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	N. Lee	director
Dr.	H. Rothman	
Mr.	J. McLoughlin	
Mr.	C. Wood	

AP aims and actions

Studies of the social and economic aspects of pollution (health, material damage, etc.).
Forecasting trends of known pollution problems; predicting new problems; defining where further research is required.
Assessing costs of technical controls.
Quantitative survey of waste generation and disposal in Manchester area to provide basis for forecasting effects and requirements.

Comments:

Contract with Science Research Cncl. (GB.050) and Social Sciences Res. Council (at least till 19[illegible]).
Undertakes no technical work itself; information from discussion and literature.

GB.150 Manchester U. Pollution Research Unit 3.71

GB 151 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible].71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME UNIVERSITY OF BRISTOL, Dept. of Inorganic Chemistry

ACRONYM

See also

ADDRESS BRISTOL 8.

Tel [illegible] 24161

AFFIL

Title	PERSONNEL	Function
Dr.	G. Nickless	

AP aims and actions

Studies of the use of catalysts for reducing vehicle exhaust emissions.

Comments

GB.151 U. Bristol, Dept. of Inorganic Chemistry [illegible]

GB 152 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME UNIVERSITY OF OXFORD, Department of Zoology

ACRONYM

See also

ADDRESS OXFORD.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	H. B. D. Kettlewell	
Dr.	E. R. Creed	
Mr.	D. R. Lees	

AP aims and actions

Studies of the evolutionary changes in the colour of lepidoptera and coleoptera brought about by local smoke concentrations.
Observations of changes in the distribution of mosses and lichens due to air pollution.

Comments

GB.152 U. Oxford, Dept. of Zoology [illegible]

GB 157 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF OXFORD, Forestry Department

ACRONYM

See also

ADDRESS: South Parks Road,
OXFORD.

Tel: [illegible]7891

AFFIL:

Title	PERSONNEL	Function
Dr.	T. W. Tinsley	
Mr.	R. G. Pawsey	

AP aims and actions:

Research [illegible] effects of air pollution on the spread and [illegible] of forest diseases, especially fungus [illegible].

Comments:

Research [illegible]

[illegible] Oxford, Forestry Dept.

GB [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 . S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF OXFORD, Dept. of Atmospheric Physics

ACRONYM

See also

ADDRESS: [illegible]

Tel:

AFFIL:

Title	PERSONNEL	Function
Dr.	J. T. Houghton	

AP aims and actions:

Measurements of the radiation properties of cloud, fog and rain, and the effects of these on climate.

Comments:

Supported by NERC (UK.0[illegible]).

GB.154 U. Oxford, Dept. of Atmospheric Physics 8.71

GB 195 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF NOTTINGHAM, School of Agriculture
Dept. of Physiology and Environmental Studies

ACRONYM:

See also

ADDRESS: University Park,
NOTTINGHAM 7.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Prof.	J. L. Monteith	

AP aims and actions

Measurements of the effects of air pollution on the income of shortwave radiation at the surface of the earth and on radiation balance.

Comments:

GB.195 U. Nottingham, Dept. of ... Environmental Studies 8.71

GB 196 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: DUNDEE UNIVERSITY, Dept. of Social and Occupational Med.

ACRONYM:

See also

ADDRESS: DUNDEE,
Scotland.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Prof.	A. Mair	

AP aims and actions

Investigation of the incidence of mesothelioma in Scotland in connection with the effect of asbestos.

Comments:

Supported by Medical Research Council

GB.196 Dundee U. Dept. of Social & Occupational Medicine 8.71

GB 157 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF CAMBRIDGE, Department of Metallurgy

ACRONYM:

See also

ADDRESS: CAMBRIDGE.

Tel: (0223) 51691

AFFIL:

Title	PERSONNEL	Function
Dr.	T. P. Hoar *	

AP aims and actions:

Studies of the inter-relation of atmospheric pollution and metal corrosion.

Comments:

- * Chairman of DTI (GB.009) committee on corrosion protection.

GB.157 U. Cambridge, Dept. of Metallurgy 8.71

GB 158 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: CRANFIELD INSTITUTE OF TECHNOLOGY,
Department of Aircraft Propulsion

ACRONYM

See also

ADDRESS: Cranfield,
BEDFORD.

Tel: (0234) [illegible]

AFFIL

Title	PERSONNEL	Function
Prof.	A. H. Lefebvre	
Dr.	[illegible] Smith	

AP aims and actions:

Investigation into means for reducing NO_x emissions from gas turbine engines.

Comments:

GB.158 Cranfield Inst. of Tech. Dept. of Aircraft Propulsion 8.71

GB 159 ACD ~~A~~ B C D E F 01 02 03 04 05 11 ~~12~~ 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 8.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: MACAULAY INSTITUTE FOR SOIL RESEARCH

ACRONYM:

See also

ADDRESS: Craiglebuckler,
ABERDEEN,
Scotland.

Tel (0 24) 78 11

AFFIL:

Title	PERSONNEL	Function
Dr.	R. L. Mitchell	director

AP aims and actions:

Investigation of the effects of atmospheric [illegible] on soils and vegetation.

Comments:

Supported by the Dept. of Agriculture & Fisheries for Scotland; work co-ordinated by Agricultural Research Council (see GB.010).

GB.159 Macaulay Institute for Soil Research 8.71

GB 160 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 ~~24~~ ~~25~~ 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 8.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITY OF EAST ANGLIA, School of Environmental Sciences

ACRONYM:

See also

ADDRESS: [illegible].

Tel [illegible] 161

AFFIL:

Title	PERSONNEL	Function
Dr.	P. S. Liss	

AP aims and actions:

Studies of the interchange of gases between atmosphere and ocean.

Comments:

GB.160 U. East Anglia, Sch. of Environmental Sciences 8.71

GB	169	ONE	A ~~B~~ C D E F	01 ~~02~~ ~~03~~ 04 05	11 12 13 14 ~~15~~	21 22 23 ~~24~~ 25	31 32 33 34 35	L M ~~S~~	1 ~~2~~ 3	3.70	S T
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: DR. G. NONHEBEL

ACRONYM:

See also

ADDRESS: Woodley Lane,
ROMSEY,
Hampshire, SO5 8JR

Tel: Romsey 3408

AFFIL:

Title	PERSONNEL	Function

AP aims and actions:

Advice and assistance with AP problems, e.g. for planning enquiries for new industrial plant.

Comments:

Retired from industrial AP work; now a consultant.

GB.169 Dr. G. Nonhebel 3.70

GB	170	INF	A ~~B~~ C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	~~L~~ M S	~~1~~ 2 3	6.70	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: NATIONAL LENDING LIBRARY FOR SCIENCE AND TECHNOLOGY

ACRONYM: NLL

See also

ADDRESS: Boston Spa,
YORKSHIRE.

Tel: 2031

AFFIL: Department of Education and Science.

Title	PERSONNEL	Function
Dr.	D.J. Urquhart	Director

AP aims and actions:

Provides loan service for books and journals on all scientific subjects, including air pollution.

Comments:

GB.170 National Lending Library for Science and Technology 6.70

171 INF A [✓ B] C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 [✓ L] M S [✓ 1] 2 3 (.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: (ASSOCIATION OF SPECIAL LIBRARIES OF INFORMATION BUREAUX)*

ACRONYM: ASLIB

See also

ADDRESS 4 Belgrave Square,
LONDON S.W.1.

Tel

AFFIL Department of Education and
Science

Title	PERSONNEL	Function
Mr.	L. Wilson	Director
Mrs.	E. Mack	Information officer

AP aims and actions

[illegible] information and [illegible] assistance [illegible] libraries, [illegible] and translation [illegible].

Comments

* Always known by its acronym.

[illegible] monthly booklists; [illegible] and unpublished translations [illegible].

ASLIB

[illegible] INF A [✓ B] C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 [✓ 3] (.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME "[illegible] ENVIRONMENT"

ACRONYM

See also

ADDRESS [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	David [illegible]	[illegible] Editor
Dr.	David [illegible]	Science Editor

AP aims and actions

Quarterly [illegible] dealing [illegible] with all aspects [illegible] terms.

Comments

[illegible] December 19[illegible]

INF A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7. [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: PERGAMON PRESS

ACRONYM

See also

ADDRESS Headington Hill Hall,
Headington,
Oxford.

Tel [illegible]

Title **PERSONNEL** Function

[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

GREECE

GENERAL AIR POLLUTION BACKGROUND

Geography

Situated at the southeastern corner of the European continent, Greece comprises a mountainous mainland and numerous islands in the adjoining seas. Summers are generally hot and dry, although sea breezes temper conditions along the rocky coastlines; winters tend to be cold and stormy. Much of the country is barren scrubland, about 15 percent is forest, and only 25 percent is suitable for agriculture. Nevertheless, the economy is predominantly dependent on agriculture, especially grain, cotton, olives, and such exportable high-value crops as tobacco and currants. Other important activities include fishing and a large merchant marine fleet.

Greece has become considerably industrialized in recent years, with oil refineries built at Athens and at Thessaloniki, the site of a petrochemical plant. Other industries include textiles, cement, glass, and shipbuilding. There is growing use of a wide variety of mineral resources, notably iron pyrites, bauxite, magnesite, and chrome. Apart from some lignite and hydroelectricity, both increasingly utilized, all fuels are imported.

The country has a population of about 9 million and administratively it is divided into 9 departments, with the department of Northern Greece enjoying special responsibilities. The departments are subdivided into nomoi (prefectures) and communes. Athens is the capital and largest city (about 1.5 million people). Its central position and the excellent port of Piraeus add to its attractiveness for new developments. In Northern Greece, Thessaloniki (population about 300,000) provides the second center for industrialization. All other towns are much smaller.

Political Features

The proliferation of organizations with an interest in air pollution control in the last few years indicates growing concern on the part of state authorities, the scientific community, the press and public opinion in Greece. Coordinated activity is developing, especially in the two main industrial and social areas, Athens and Thessaloniki, where air pollution from industry, vehicles, and space heating is increasingly believed to present serious problems.

Present Controls

At present, there is no legislation which deals comprehensively with the problem of air pollution or which sets air quality standards. Existing regulations are sporadic and mainly of a policing nature:

1. Drivers or owners of motor vehicles causing air pollution (emission of smoke or noxious odors) through poor maintenance or poor driving are prosecuted by the police authorities. To this end, teams of one police officer and one technical employee of the Ministry of Transportation are empowered to make roadside checks and to withdraw driving licenses of violators for 2 to 10 days.

2. The use of diesel engines is permitted only in certain types of vehicles (large trucks and buses). These vehicles must meet certain specifications and maintenance standards; otherwise their owners and drivers are prosecuted by the police authorities if the vehicles emit black smoke.

3. Owners of space heating burners in houses, hospitals, large buildings, factories, etc., are required to install smoke-collecting devices and to maintain their installations properly. Violators are prosecuted by the police authorities.

4. Industrial emissions are controlled indirectly and individually through the granting of operating licenses by the Ministry of Industry. Applicants for such licenses must specify in their application their air pollution control measures and equipment

and must comply with any other additional conditions that may be specified by the Ministry.

5. The sulfur content of some oil fuels is controlled:

    Automotive diesel fuel: 1.0 percent maximum
    1500-sec. heavy fuel oil: 3.5 percent maximum
    3500-sec. heavy fuel oil: 4.0 percent maximum

6. The maximum lead content of gasoline is limited to 0.84 grams lead per liter.

Administration

There is no special government agency with clear, overall jurisdiction for air pollution problems. Such jurisdiction is scattered among various departments which occasionally become involved, depending on the nature of problem. The Ministry of Social Services, for example, may deal with questions of public health; the Ministry of Agriculture, with questions pertaining to the protection of flora, fauna and landscape; police authorities, with questions of enforcement of regulations; and the Ministry of Industry with licensing of new industries.

Trends

Although there is at present no Government body with overall responsibility for matters involving air pollution, there are indications that the Government may be planning to establish an Inter-departmental Coordinating Committee for the Protection of Nature, reporting directly to the Prime Minister. If so, this organization could develop into an agency to coordinate activities in the overall area of environmental conservation and health.

It is expected that the maximum permitted sulfur content of automotive diesel fuel will be reduced to 0.5 percent when the modernization and expansion of Aspropyrgos refinery is completed. At present, however, no reduction in the sulfur content of the heavier fuels is foreseen.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

Since the conservation effort in Greece has not yet become fully
organized and since many organizations are new and have not begun
actual work, it is difficult to appraise their role and relationships
to each other at this time. The Geniki Diefthinsis Igieinis (Directorate GR.002
General of Public Health), which is responsible to the Ministry of Social
Services, and the Geniki Diefthinsis Dason (Directorate General of Forests), GR.003
which is responsible to the Ministry of Agriculture, are two central
government groups presently concerned most importantly with air pollution
problems.

Among other Government organizations, the Ipiresia Epistimonikis GR.008
Erevnis kai Anaptixeos (IEEA--Scientific Research and Development Service)
was established in the spring of 1971. This organization could play an
increasingly significant role in coordinating conservation research
activities.

The Technical Chamber of Greece (Technikon Epimelitirion tis Ellados),
which acts as an advisory body to the Government on technical matters of
all kinds, established in 1968 the Epitropi Prostasias tis Atmosphairas ek GR.015
tis Molinseos (Committee for the Protection of the Atmosphere from
Pollution). This Committee of professional scientists and engineers is
studying the problems of air pollution in the Athens area. A report on
vehicle emissions has already been issued. Measurements of ambient air
pollution are also being made.

Two other organizations are also conducting surveys of air pollution
on a limited scale. They are the Meteorologikon Institoyton (Meteorological GR.010
Institute) and Kentron Pirinikon Ereynon Domokritos (Demokritos Nuclear GR.011
Research Center), both in Athens.

For the industrial region around Thessaloniki, the Epitropi Peribal- GR.005
lontos (Environment Committee) of the special Ministry for Northern Greece
is particularly active in coordinating environmental technical information.

Both in Athens and Thessaloniki, a relatively new private nonprofit
organization is promoting studies of environmental problems and research
into pollution abatement measures. It is the Elliniki Etairia Ereinis GR.021
kai Elegchoy tis Ripanseos ton Idaton, toy Edaphoys kai toy Aeros (ERIEA--
Greek Society for Research and Control of Pollution of Water, Soil and
Air), which is open to membership from a wide circle of professional
scientists and has the potential of playing a significant role in this field.

GR 002 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ΓΕΝΙΚΗ ΔΙΕΥΘΥΝΣΙΣ ΥΓΙΕΙΝΗΣ
Directorate General of Public Health

ACRONYM:

See also

ADDRESS 17 Aristotelous Street,
ATHENS.

Tel [illegible]

AFFIL Ypourgeion Koinonikon Ipiresion
(Min. of Social Services).

Title	PERSONNEL	Function
Mrs.	Meropi Violaki	Director General

AP aims and actions

Responsible for public health aspects of AP.

Comments

Maintaining close watch on current situation.

GR.002 Geniki Dieftinsis Ygieinis

GR 003 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ΓΕΝΙΚΗ ΔΙΕΥΘΥΝΣΙΣ [illegible]
Directorate General of Forests

ACRONYM

See also

ADDRESS [illegible]
ATHENS.

Tel [illegible]

AFFIL Ypourgeion Georgias
(Min. of Agriculture).

Title	PERSONNEL	Function
Mr.	P. Margaropoulos	Director General

AP aims and actions:

Responsible for conservation of flora, fauna and natural landscape.

Comments:

Mr. Margaropoulos is very active in environmental conservation affairs.

GR.003 [illegible] Dierthinsis Dason 5.71

GR A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ΥΠΟΥΡΓΕΙΟΥ ΒΟΡΕΙΟΥ ΕΛΛΑΔΟΣ, Επιτροπη Περιβαλλον[illegible]

Ministry of Northern Greece, Environment Committee

ACRONYM

See also

ADDRESS [illegible]

Tel [illegible]

AFFIL [illegible] Government.

Title	PERSONNEL	Function
Mr.	[illegible]	Chairman
Mr.	[illegible] Simotas	Secretary

[illegible] from different Government Departments in Northern Greece.

AP aims and actions

Comments

[illegible]

A B C D E F 11 12 13 34 35 L M S

Country No Type Functions Effects Controls Size Status Date

NAME ΥΠΗΡΕΣΙΑ [illegible] ΚΗΣ [illegible]

[illegible] Environment [illegible]

ACRONYM

See also

ADDRESS [illegible]

Tel

AFFIL [illegible]

Title	PERSONNEL	Function
Mr.	[illegible]	[illegible]

AP aims and actions

Comments

[illegible]

GR 010 NAT A B C Ø E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S 7
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ΜΕΤ[illegible]ΩΡΟΛΟΓ[illegible]ΚΟΝ [illegible], Εθνικου [illegible]
Meteorological Institute, National Observatory

ACRONYM

See also

ADDRESS [illegible],
[illegible].

Tel [illegible]

AFFIL —

Title	PERSONNEL	Function
Prof.	L. Carapiper[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

[illegible], [illegible]

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S 7
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] '[illegible]ΜΟΚΡ[illegible]Σ'
[illegible] Centre

ACRONYM

See also

ADDRESS [illegible]
[illegible].

Tel [illegible]

AFFIL [illegible]
[illegible].

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
Mr.	[illegible]	[illegible]
Mr.	[illegible]	[illegible]
[illegible]	S. [illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible] 'Demokritos' [illegible]

GR 015 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S 7
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ΕΠΙΤΡΟΠΗ ΠΡΟΣΤΑΣΙΑΣ ΤΗΣ ΑΤΜΟΣ. ΕΚ ΤΗΣ ΜΟΛΥΝΣΕΩΣ
Committee for the Protection of the Atmosphere from Pollution

ACRONYM:
See also

ADDRESS: 4 Karageorgi Street,
ATHENS 125.

Tel [illegible].406

AFFIL: Technikon Epimelitirion tis Ell.
(Technical Chamber of Greece)

Title	PERSONNEL	Function
Dr.	S. Pikoulis	chairman
Prof.	C. Lefas	
Mr.	[illegible] Papai[illegible]	
Mr.	A. Stefanou	
	total 16 engineers and scientists.	

AP aims and actions
To study air pollution problems in the Athens area, and [illegible] to the Technical Chamber to formulate recommendations for appropriate abatement [illegible] action.

Comments
Produced in 1971 a preliminary report concerning pollution from internal combustion engines.

GR.015 Epitropi Prostasias tis Atmosphairas ek tis [illegible] 5.71

GR 020 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ΕΛΛΗΝΙΚΗ ΕΤΑΙΡΙΑ ΠΡΟΣΤΑΣΙΑΣ ΤΗΣ ΦΥΣΕΩΣ
Greek Society for the Conservation of Nature

ACRONYM:
See also

ADDRESS: [illegible] Anagnostopoulou Street,
ATHENS.

Tel [illegible].046

AFFIL:

Title	PERSONNEL	Function
Prof.Ac.	D. Pantazis	president
Mr.	P. Antipas	secretary general

AP aims and actions
Through lectures, articles, etc, to create public awareness and to promote government action on nature conservation problems.

Comments
[illegible] International [illegible] Nature.

GR.020 Elliniki Etairia Prostasias tis Phiseos 5.71

GR 021 SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible].71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ΓΑΛ. ΕΤ. ΕΡΕΥΝΗΣ ΚΑΙ ΕΛΕΓΧΟΥ ΤΗΣ ΡΥΠΑΝΣΕΩΣ..ΤΟΥ ΑΕΡΟΣ
Greek Soc. for Research & Control of P. of Water, Soil and Air

ACRONYM: [illegible]

See also

ADDRESS: 4 Karageorgi Servias,
ATHENS 1?5.

Tel: [illegible]

AFFIL.:

Title	PERSONNEL	Function
Prof.	L. Carapiperi	president
Prof.	M. Loizos	vice-president
Prof.	L. [illegible]	vice-president
Dr.	S. Pi[illegible]	secretary general
Dr.	A. Matsy	treasurer

AP aims and actions:

To contribute to the study of [illegible] of air, [illegible] water and soil, and to create [illegible] awareness of the need [illegible] to be developed. [illegible] prevent or control them. [illegible] national [illegible] [illegible], [illegible]

Comments:

[illegible]

Elliniki Atairia Ereynis kai Elegchoy tis Ripanseos ton Idaton, toy Edaphoys
kai toy Aeros.

GR 002 SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ΕΤΑΙΡΙΑ ΠΡΟΣΤΑΣΙΑΣ ΠΑΝΙΔΟΣ ΚΑΙ ΠΕΡΙΒΑΛΛΟΝΤΟΣ
Society for the Protection of Fauna and the Environment

ACRONYM:

See also

ADDRESS: [illegible] Antigonidou Street,
THESSALONIKI.

Tel: 522.015, 522.146

AFFIL.:

Title	PERSONNEL	Function
Dr.	M. Karoussis	president
Mr.	V. Dermatopoulos	secretary general

AP aims and actions:

To preserve the environment from pollution effects.

Comments:

Private local organisation.

GR.002 Etairia Prostasias Panidos kai Periballontos 5.71

GUATEMALA

The new Public Health Code, drafted in 1971 for approval by the Congress in Guatemala, includes a section on air pollution. While this problem is considered a much less serious danger to public health than the prevalent gastrointestinal and infectious diseases, some concern with air quality is beginning to be shown in the capital, Guatemala, a city of 650,000 inhabitants. The Ministry of Public Health is instal- GCA.01
ling equipment to monitor vehicle emissions, and the Engineering Depart- GCA.02
ment at the City University conducted during 1971 a preliminary survey of the pollutants present in their urban ambient air.

GCA 001 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME City University, Engineering Laboratory
(Laboratorio Facultad de Ingenieria)

ACRONYM:
See also

ADDRESS
'Ciudad Universitaria
Guatemala

Tel 481530
AFFIL

Title	PERSONNEL	Function
Dr.	Abreu, de Alba	2 Research Doctors

AP aims and actions:

Profile study of air pollutants in Guatemala City.

Research measurements of 17 gaseous and solid pollutants, including SO_2, CO, total oxidants, lead, chlorine, selenium, phosphates.

Cooperation with Municipality and University of San Carlos.

Comments:

GCA 002 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Ministry of Public Health and Welfare
(Minesterio de Salud Publica y A.S.)

ACRONYM
See also

ADDRESS
Palacio Nacional
Ciudad de Guatemala

Tel: 21212
AFFIL

Title	PERSONNEL	Function
Dr.	Recinos, Antonio	Vice Minister 2 Research Doctors 1 Research Secretary

AP aims and actions:

Promulgating new public health code, including section on air pollution, for approval by Congress.

Installing monitors to measure automotive exhausts.

Comments:

GCA 001 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME City University, Engineering Laboratory
(Laboratorio Facultad de Ingenieria)

ACRONYM:

See also

ADDRESS
'Ciudad Universitaria
Guatemala

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	Abreu, de Alba	2 Research Doctors

AP aims and actions:

Profile study of air pollutants in Guatemala City.

Research measurements of 17 gaseous and solid pollutants, including SO_2, CO, total oxidants, lead, chlorine, selenium, phosphates.

Cooperation with Municipality and University of San Carlos.

Comments:

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002 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Ministry of Public Health and Welfare
(Minesterio de Salud Publica y A.S.)

ACRONYM:

See also

ADDRESS
Palacio Nacional
Ciudad de Guatemala

Tel 21212

AFFIL

Title	PERSONNEL	Function
Dr.	Recinos, Antonio	Vice Minister 2 Research Doctors 1 Research Secretary

AP aims and actions:

Promulgating new public health code, including section on air pollution, for approval by Congress.

Installing monitors to measure automotive exhausts.

Comments:

HONG KONG

GENERAL AIR POLLUTION BACKGROUND

Hong Kong is a British Colony with a population in 1970 of around 4 million, occupying an area of about 400 square miles. Most of the population live and work in the highly congested areas of Kowloon and the northern side of Hong Kong island. There is a large amount of prosperous industry, which is concentrated in areas of dense population. The major enterprises are four large electric power plants and a cement plant, all near the municipal airport at the heart of the city. The demand for electricity for air conditioning for the humid tropical weather is high and growing rapidly, at about 15 percent per year.

Pollution problems resulting from the use of fuel oil of 2.5 percent sulfur content in the power plants and the cement plant are aggravated by the very rapid growth since World War II of large office buildings and apartments near the older industrial sites. Despite expansion of the newest power plant at a distance from the city, the continuing increase in demand still exceeds the supply. Industrial smoke is less of a problem, and one which can be handled by better fuel engineering on the part of industry.

The Air Pollution Control Unit attached to the Department of Labor is headed by Mr. F. Higginson as Smoke Abatement Advisor, and has seven antismoke inspectors. Also, under the direction of Mr. M. Harden, there is a 12-man Air Pollution Advisory Committee, comprising representatives of the government departments concerned. Present activities in monitoring and policing defined smoke control areas are in accordance with regulations based on the United Kingdom Clean Air Act of 1956.

TRENDS

A centrally located early warning system is being installed for air pollution alerts. Future actions are expected to involve controls on automotive emissions which have not been a pressing problem. The proportion of diesel engines is high, and their emissions can be reduced by better maintenance and operation. Efforts will be continued to minimize emissions of industrial smoke, and to develop economical sources for gas or oil fuels of lower sulfur content. It is expected that this problem will become worse, however, because of the costs of using fuels containing less sulfur; otherwise any process for flue gas scrubbing must be passed on to local industries, which are competing for world-wide trade on the basis of the lowest possible production costs.

INDIA

BACKGROUND

India has massive problems in economics, agricultural output and industrial production lag, complicated by the large size of the country and high population density. Two-thirds of the industry in India and over two-thirds of the industrial labor force are concentrated in cities of over a million in population. Ninety-two percent of the villages in India, representing two-thirds of the total population, do not have a source of electricity available.

The industrial production of fertilizers, steel, chemicals and consumer goods is being promoted to combat the country's difficult domestic problems. Eighty percent of this activity is concentrated in eight large industrial areas. Half of the facilities are in the two cities of Bombay and Calcutta, and major industries are located in the cities of Ahmedabad, Delhi, Hyderbad, Kanpur, Madras, and Nagpur. This combination of urbanization and industrialization has created severe problems of air pollution in the larger communities across India.

Urban air pollution is serious, in part, because new industries have been completely unregulated as to location. Thus, chemical factories, textile mills and power plants are intermixed everywhere with residential areas. Another factor is that most of these plants have been built at the lowest possible capital cost, without any effluent controls, in an effort to reduce money sent out of the country, which might have an unfavorable effect in India's foreign exchange and which might be considered to affect adversely factory operating costs and plant efficiency. For example it is standard practice not to install controls in plants for the manufacture of sulfuric or nitric acid, which have been constructed also with low chimney heights to save initial costs. It is not at all unusual to see in residential areas industrial chimneys which do not rise above the level of surrounding buildings.

There is no effective air pollution control law in India at present. The Municipal Nuisance Acts provide an adequate basis to proceed against aggravated complaints, but they lack any precise definition of what is a nuisance. Economic priorities in the country place emphasis on correcting shortages of food, power, and industrial products as the greatest public benefits, with strictly limited financial resources. As a result, for example, pollution controls such as an electrostatic precipitator to remove 98 percent of the fly ash from a power plant at an increase of 30 percent in the cost of the plant are frequently bypassed, in favor of more power for the same cost.

TRENDS

The Government of India has appointed an Expert Committee to assess the entire problem of air pollution and draft a suitable air pollution control bill for Parliament. It is expected that emphasis will be placed on industrial zoning, with due consideration for the installation of operating controls, so as to obtain the greatest benefits to the public with the least expense for the devices. Improved training of personnel is needed at all levels, for research, field measurements, and for the implementation and administration of controls. As soon as additional trained staff become available they can help collect and analyze the information required in the various localities. This information can then be used to develop public support for those changes in the operation of government and industry which can be made most readily with available resources.

RELATIONSHIPS AMONG ORGANIZATIONS

The major organization in India for air pollution surveys and monitoring is the Central Public Health Engineering Research Institute of the Ministry IND-01 of Health, with headquarters at Nagpur and branch facilities throughout the country. Earlier surveys were made by the Bhabha Atomic Research Center at Bombay, which conducts research on atmospheric chemistry, problems IND-02 of stack dispersal, and the effects of aerosols. The Indian Meteorological Department provides background information for all such studies. IND-03

The Central Fuel Research Institute at Dhanbad is one of some 40 IND-04
institutes affiliated with and sponsored by the Council for Scientific
and Industrial Research. Its interest in pollution control involves
improvements in the use of high-ash coals, including coal cleaning,
gasification, fluid bed combustion, and electrostatic precipitation.
A related institute at Dhanbad is the Central Mining Research Station, IND-05
which has extended its studies of mining dusts to include airborne dusts
of other types such as the smoke from cigarettes. A third such institute
is the National Chemical Laboratory of India at Poona, which conducts IND-06
chemical engineering pilot studies on gas-solid reactions, including
those suitable for the treatment of gaseous pollutants. Academic programs
for the training of personnel have been established at the Chemical
Engineering Department of the Indian Institute of Science in Bangalore IND-07
and the Indian Institute of Technology, which has branches in five major IND-08
cities. Similar programs are being considered by other universities.

IND 001 COY A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Central Public Health Engineering Research Institute

ACRONYM CPHERI

See also

ADDRESS

Wardha Road
Nagpur-3, India

Tel

AFFIL

Ministry of Health
Gov. of India

Title	PERSONNEL	Function
Prof.	S.J. Arceivala	Director
	P.K. [illegible]nnemwar	Chief, AP Activities
	V.I. [illegible]pattiwar	Meteorological Laboratory
	9 Professionals at Nagpur 26 at research centers throughout India	

AP aims and actions

Primary center in India for AP surveys and monitoring

Monitors air quality in major industrial centers:
Bombay, Calcutta, Delhi, Madras,
Ahmedabad, Kanpur

Ambient measurements, source emissions, sampling and analysis for SO₂, NO₂, [illegible], and oxidants

Consultation to industry and [illegible] specifications [illegible] methods

National activity [illegible]

Comments

Former Dep. Director J.M. Dave is now Advisor to Ministry of Health, New Delhi, on Environmental Health Engineering

Publ: Environmental Health (quarterly)

IND 0[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Bhabha Atomic Research Centre

ACRONYM

See also

ADDRESS

Trombay
Bombay 85, India

Tel

AFFIL

Gov. of India

Title	PERSONNEL	Function
	P.K. [illegible]	Atmos. Chemistry and AP study group
	K.G. [illegible], K. Kapoor	Air monitoring section
	S.D. Soman	Health physics division
	R.V. Amalraj	Plant superintendent

AP aims and actions

Climatology of AP at India's industrial centres, qual. and quant. studies of air pollutants, stack dispersal, dev. of new procedures in AP analysis, [illegible] of aerosols, H_2S, Pb; environmental surveillance

Comments

Publ: Nuclear India (monthly)

IND 003 GOV A B C [✓ D] E F 01 02 03 04 05 11 12 13 14 15 21 22 23 [✓ 24] 25 31 32 33 34 35 [✓ L] M S [✓ 1] 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Indian Meteorological Department

ACRONYM:

See also

ADDRESS
Lodi Road
New Delhi 3, India

Tel

AFFIL

Title	PERSONNEL	Function
	P.R. Krishna Rao	Director General

AP aims and actions:

Meteorological network ([illegible] stations)

Ozone observations (6 stations)

Includes Northern Hemisphere Analysis Centre and Exchange Centre (New Delhi) and Institute of Tropical Meteorology (Poona)

Comments:

Publ: Journals, bulletins, memoirs

IND 004 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Central Fuel Research Institute

ACRONYM: CFRI

See also

ADDRESS
P. O. Jealgora, Dhanbad,
Bihar, India

Tel

AFFIL
Council for Scientific and Industrial Research, Dr. Atma Ram, Director

Title	PERSONNEL	Function
Dr.	A. Lahiri	Director
Dr.	N. G. Basak	Dep. Director
Dr.	H. S. Rao	Asst. Director
Dr.	A. K. Chakravarti	Asst. Director

AP aims and actions:

Studies on cleaning of high ash coals, froth flotation for sulfur removal

Coal chemistry, conversion, gasification, and fluid bed combustion for pollution control

Electrostatic precipitation, effects of ash characteristics.

Comments:

Publ: News (quarterly), Reports

IND 005 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Central Mining [illegible] Station

ACRONYM

See also

ADDRESS
Barwa Road, P.B. No.
Dhanbad
Bihar, India
Tel
AFFIL
Industry

Title	PERSONNEL	Function
Dr.	K. [illegible]	Director

AP aims and actions

Comments

Fixation [illegible] studies [illegible] alternative [illegible], smoke [illegible], [illegible]

[illegible]

IND 006 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME National Chemical Laboratory, Poona

ACRONYM NCL

See also

ADDRESS
Poona 8, India

Tel
AFFIL
Council for Scientific and Industrial Research (CSIR)

Title	PERSONNEL	Function
Dr.	[illegible]	Director
Dr.	L. K. Doraiswamy	Dep. Director, Chief of Chem. Engineering Div.

AP aims and actions

Comments

Scale design, [illegible] and scale-up from lab scale to pilot plant installation.

Process development studies on [illegible] reactions, catalytic treatment [illegible] pollutants.

IND 007 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Indian Institute of Science
Chemical Engineering Department

ACRONYM: IISC

See also

ADDRESS
Malleswaram P.O.
Bangalore, India

Tel

AFFIL
University Grants Commission
of India (UGC)

Title	PERSONNEL	Function

AP aims and actions:

Developing a program in Environmental Engineering

Basic studies in reaction kinetics, transport processes, mathematical modelling, and biomedical engineering

Comments:

Publ: Journal

IND 008 ACD [✓ A] [✓ B] C D E F 01 [✓ 02] [✓ 03] 04 05 11 12 13 14 [✓ 15] 21 22 23 [✓ 24] 25 31 [✓ 32] [✓ 33] [✓ 34] [✓ 35] L M S 1 [✓ 2] 3 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Indian Institute of Technology

ACRONYM

See also

ADDRESS
Kanpur 16, U.P., India

Tel

AFFIL

Title	PERSONNEL	Function
	G.D. Agarwal	Sanitary Engineering Div.

AP aims and actions:

AP concentrations at Kanpur

Abatement procedures

Comments:

Institute has branches at Bombay, Delhi, Kanpur, Kharagpur, Madras

IRELAND

(Eire)

GENERAL AIR POLLUTION BACKGROUND

Geography

The most westerly of European countries, Ireland is a large but sparsely populated island enjoying a markedly maritime climate. Winters are mild and summers cool; the weather changes frequently, with few periods of stagnation.

Ireland has a long history of internal unrest. Political independence from the United Kingdom was obtained in 1921, except for the six northeast counties of Ulster (centered around Belfast), which remain under British jurisdiction.

The Eire population of about 3 million is very unevenly distributed. The capital, Dublin, is by far the largest city (about 600,000 population), followed by the port of Cork (130,000). Elsewhere, small market and commercial townships form centers for numerous widely scattered farms; the farms and towns in the east are somewhat larger than in the west. Much of the country is rough pasture, bog and mountain.

There are almost no indigenous resources of coal, with few minerals. Peat ("turf") is a widely used domestic fuel, even in towns. It is also used for generation of electricity, as also is water power, but all other fuels are imported. An oil refinery is located near Cork.

The Irish economy has long depended on agricultural products from small-scale farming, but industrial activity has been encouraged by the State in recent years. Factories for the production of sugar, cement, paper, footwear, textiles, electronic equipment and other light engineering products have been established, especially near the ports (e.g., Dublin, Cork, Arklow, Shannon airport). In addition, there is a steel rolling mill,

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some nonferrous smelting facilities and a fertilizer plant. Apart from local problems of dispersion around specific industrial plants (e.g., cement works), air pollution is apparent only in Dublin and Cork during occasional winter periods of quiet weather. Domestic peat burning is recognized as an important source of pollution, but the use of other fuels presents economic problems.

Political features

Current concern about the environment is directed at conservation of the landscape (especially to support the tourist industry) and at problems of water pollution. Local air pollution does attract criticism, however, and there is a move to introduce modern legislation for air quality conservation.

Present controls

Many Irish laws have a common origin with similar British regulations, enacted before Irish independence. Thus, Common law enjoins "good neighborliness" on all individuals and organizations; as elsewhere, however, such legislation is of limited practical effect.

The emission of noxious fumes and gases from certain specialized industries, mainly chemical works, is controlled under the Alkali, etc. Works Regulation Act of 1906, which shares a common origin with the United Kingdom legislation. Under this law, which is administered by the Department of Local Government, the works are required to be registered annually and are subject to inspection. Unlike the United Kingdom, however, in Eire, there is no Alkali Inspectorate presently established for this activity.

IRL.001

Section 10 of the Local Government (Sanitary Services) Act of 1962 empowers the Minister to make regulations for controlling the pollution of the atmosphere. Regulations (Statutory Instrument No. 156 of 1970) which were made under this section and which came into force in January 1971 place restrictions on industrial smoke emissions and extend the provisions of the Sanitary Services Code to nuisance caused by emissions of smoke, dust, grit, gas or fumes. These regulations do not apply to domestic premises. Enforcement is the responsibility of the County Councils.

Controls on air pollution caused by motor vehicles are set forth in the Road Traffic (Construction, Equipment and use of Vehicles) Regulations of 1963, which were made under the Road Traffic Act of 1961. These regulations, which require that vehicles, especially diesels, shall not emit visible smoke, are enforceable by the police authorities.

The Local Government Act of 1967 also permits local authorities to specify operating conditions when granting permission to plan for new industries. This law is proving an effective mechanism for air pollution control.

Trends

Steady consolidation of existing approaches to controlling air pollution is expected to be supported by additional legal measures as the need appears. Thus, the European Economic Community vehicle emissions regulations could be adopted by Ireland, especially if it joins ECE. A national policy for environmental conservation is being developed by the Institute for Industrial Research and Standards. IRL.005

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

There is at present no central council for protecting the environment in Ireland. The Department of Local Government, through its Sanitary Services Section, has responsibility for air pollution legislation and for the application of planning regulations, as well as for industrial operating conditions. IRL.001

The Institute of Industrial Research and Standards is a body with broad responsibilities similar to the American Society for Testing and Materials. In mid-1970, this Institute was asked to draft a policy on air pollution measurement and control as a guide for Government planning. The Institute is expected to play a larger role in environmental conservation technology in the future. IRL.005

An Foras Forbartha (the National Institute for Physical Planning and Construction Research) is another state organization with a potential role in national planning for environmental conservation. So far, this group has directed its attention mainly to water pollution. IRL.006

ESB (the Electricity Supply Board) is the only industrial group presently making measurements of ambient air pollution. Its work in the Dublin area is complementary to that of the Department of Local Government, whose surveys are supported mainly by various academic groups. Notable among concerned individuals are Dr. Jessop of Trinity College, Dublin and Professor Murphy at University College, Dublin. IRL.011 IRL.009 IRL.016 IRL.017

There are no societies in Ireland specifically concerned with air pollution problems. An Taisce (the National Trust for Ireland) does, however, consider the "amenity aspects" of air quality in its comments on planning applications. IRL.020

IRL 003 REG A B C ~~D~~ E F 01 02 03 04 05 11 12 13 14 15 21 22 23 ~~24~~ 25 31 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 9.70 S ~~T~~

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: COUNTY MEDICAL OFFICER OF HEALTH, DUBLIN.

ACRONYM:

See also

ADDRESS City Hall,
DUBLIN 2.

Tel (01) 776811

AFFIL: Dublin County Borough Council.

Title	PERSONNEL	Function
Dr.	J. B. O'Regan	

AP aims and actions:

Assists Dept. of Local Govt. (IRL.001) in measurements of AP in Dublin area.
Provides advice on health effects of AP.

Comments:

IRL.003 County Medical Officer of Health, Dublin 9.70

IRL 004 MUN A B C ~~D~~ E F 01 02 03 04 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 ~~2~~ 3 9.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: CITY OF DUBLIN HOSPITAL

ACRONYM:

See also

ADDRESS Baggot Street,
DUBLIN 4.

Tel

AFFIL:

Title	PERSONNEL	Function
Dr.	Chapman	

AP aims and actions:

Studies of the effects of AP on lung function.

Comments

IRL.004 City of Dublin Hospital 9.70

IRL 005 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 [illegible] 75 S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: AN INSTITIUID TAIGHDE TIONSCAIL AGUS CAIGHDEAN

Institute of Industrial Research and Standards

ACRONYM

See also

ADDRESS: The Industrial [illegible] Centre
Ballymun Road,
DUBLIN 9.

Tel: (01) 370101

AFFIL: Dept. of Industry & Commerce

Title	PERSONNEL	Function
Dr.	[illegible] C. Arn[illegible]	[illegible]
Dr.	T. McMan[illegible]	[illegible]
Mr.	Dickens[illegible]	[illegible] staff
Mr.	Dewhurs[illegible]	

AP aims and actions

Provides [illegible] advisory services to industry and government.
Developing [illegible] and abatement for government planning.

Comments

[illegible]

[illegible] Industrial Research and Standards [illegible]

IRL [illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 [illegible] 1 2 3 [illegible] S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: AN FORAS FORBARTHA [illegible]

[illegible]

ACRONYM

See also

ADDRESS: St. [illegible]'s [illegible],
[illegible] Road,
[illegible] 4.

Tel: [illegible]

AFFIL: [illegible]

Title	PERSONNEL	Function
Dr.	D. [illegible]	[illegible] technical adviser
Mr.	[illegible]	Secretary
Mr.	[illegible]	
Mr.	[illegible]	Planning [illegible]
Mr.	[illegible]	

AP aims and actions

[illegible] advisory [illegible] forward planning, [illegible] environment.

Comments

[illegible] Include [illegible] experts.
[illegible] environmental work is [illegible] little AP work yet.

[illegible]

IRL 010 ASN A [✓ B] C D E [✓ F] 01 02 03 04 05 11 12 13 14 [✓ 15] 21 22 23 24 25 31 32 33 34 35 L [✓ M] S 1 [✓ 2] 3 [illegible].70 S [✓ 1]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: FEDERATION OF IRISH INDUSTRIES

ACRONYM

See also

ADDRESS [illegible] Fitzwilliam Place,
DUBLIN [illegible].

Tel: [illegible]

AFFIL:

Title	PERSONNEL	Function
Mr.	J. J. Stan[illegible]	Secretary

AP aims and actions

Through [illegible] groups, [illegible] Industry's views [illegible]
and [illegible] publicly known.
Provides [illegible] member companies.

Comments

[illegible] committee for A/AP.

IRL.010 Federation of Irish Industries

IRL 011 [illegible] A B C [✓ D] E F 01 [✓ 02] 03 04 05 11 12 13 14 [✓ 15] 21 22 23 [✓ 24] 25 31 32 33 34 35 L M S 1 [✓ 2] 3 [illegible].70 S [✓ 1]

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ELECTRICITY SUPPLY BOARD

ACRONYM E.S.B.

See also [illegible]

ADDRESS [illegible] Fitzwilliam Street,
DUBLIN [illegible].

Tel: [illegible]

AFFIL: [illegible]

Title	PERSONNEL	Function
Mr.	B. O'Car[illegible]	[illegible] [illegible] for AP [illegible]
	[illegible] P/M [illegible]	

AP aims and actions

[illegible] in Dublin
[illegible] ESB contribution.

Comments

[illegible] measurements made [illegible]
Dept. of Local Govt [illegible].

IRL.011 Electricity Supply Board [illegible].70

IRL 016 APD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: TRINITY COLLEGE, DUBLIN, Dept. of Social Medicine

ACRONYM

See also

ADDRESS DUBLIN.

Tel (01) 772941

AFFIL

Title	PERSONNEL	Function
Prof.	W. J. Jessop	

AP aims and actions

Measurements of SO_2, smoke and [illegible] in atmosphere.

Comments

Supplies survey work of Dept. of Local Govt (IRL.001).

IRL.016 Trinity College, Dublin 9.70

IRL 017 APD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME UNIVERSITY COLLEGE, DUBLIN, Inst. of Soc. and Prev. Medicine

ACRONYM

See also

ADDRESS Earlsfort Terrace,
DUBLIN 2.

Tel [illegible]

AFFIL Nat. Univ. of Ireland.

Title	PERSONNEL	Function
Prof.	[illegible] Murray	
Prof.	[illegible] Bourke	Epidemiology

AP aims and actions

Measurements of smoke and SO_2 in Dublin.

Comments

Supports work of Dept. of Local Govt.

IRL.017 University College, Dublin, Inst. of Social Medicine 9.70

IRL 000 SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70 S A

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME AN TAISCE

National Trust for Ireland

ACRONYM

See also

ADDRESS Bridge House,
Upper Baggot Street,
DUBLIN 4.

Tel (01) 64[illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	Maurice Craig	secretary

AP aims and actions

Conservation of the environment and amenities.
Comments on the effects of planning applications.

Comments

Voluntary group with small govt. subsidy.
AP incidental to main activities.

IRL 001 An T[illegible] 9.70

IRL [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME CUMANN NA N-INNEALTOIRI

The Institution of Engineers of Ireland

ACRONYM

See also

ADDRESS [illegible] Clyde Road,
Ballsbridge,
DUBLIN 4.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	A. O'Brien.	Secretary

AP aims and actions

Arranges lectures on engineering subjects, incl. AP.

Comments

IRL 002 Inst. of Engineers of Ireland 9.70

ISRAEL

GENERAL AIR POLLUTION BACKGROUND*

Geography

The small state of Israel is subject to large differences and varieties of climatic conditions, plants and animal life. Annual rain fall, for example, varies over the distance of 400 kilometers from a very wet 1000 mm in the north to an arid 200 mm at Elath in the south, and from 550 mm in Jerusalem to 100 mm or less at the northern tip of the Dead Sea, 30 kilometers away. The population shows a similar diversity, from the desert dweller or peasant accustomed to using primitive tools, to the modern farmer and city resident, living with growing industries, commerce and universities. Population density is equally diverse. While there are large empty areas, the Mediterranean coastal zone, which is densely populated, also contains most of the industry and an important fraction of the country's agriculture.

Political Features

Now in its third decade, Israel is showing a strong trend toward becoming a modern technological society, and, as a result, air pollution has become a concern. The problem became considerably more severe at the beginning of the 1960's, because of rapid industrialization, urbanization, a great increase in automotive transportation, and a general rise in the standard of living. In 1963, a unit for air pollution control was set up in the Ministry of Health. Also at about that time, universities began providing courses in air pollution, and various voluntary groups began to deal with the subject. The increase in demand for power has caused a steady rise in fuel consumption to 4.8 million metric tons in

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*Principal sources used are information supplied by Professor J. Neumann of the Hebrew University (Jerusalem), Mr. A. Peranio of MALRAZ (Haifa), The Environment in Israel, (1971 report to the United Nations, edited by U. Marinov, J. Gale) and A Summary of Israeli Legislation, Standards, Criteria, and Guide in the Field of Air Pollution (report to the World Health Organization as of June 1970, by Dr. Alexander Donagi).

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1970, which is an increase of [illegible] percent over the [illegible] year. The number of motor vehicles increased from about [illegible] in 1960 to [illegible] in 1969, an increase of 300 percent in 9 years.

The continuous increase in fuel consumption and the high content of sulfur in the fuels used are factors determining the pollutants found. The burning of oil with a relatively high sulfur content for power stations and other industrial purposes, as well as for some domestic heating, results in the emission of large quantities of sulfur dioxide and particulates. In urban areas, motor vehicles are the main source of pollution, particularly carbon monoxide. The black smoke resulting from diesel engines (in trucks, buses, taxis) is a greater problem than in other developed countries. Factors contributing to a high rate of pollutant emissions per vehicle are [illegible], poor maintenance, overloading, and lack of police enforcement in this field.

Unlike most rapidly developing countries, Israel has a relatively large and active scientific community. This fact has brought about an increasing interest and [illegible] among scientists and the urban population at large toward environmental [illegible] and management. Still, the acute political situation in which Israel has been involved since its inception in 1948 has precluded the [illegible] of appropriate research and pollution controls to the degree warranted by the rapidly increasing problems in degradation of the environment.

Present Controls and Standards

Since the awareness of air pollution has increased rapidly in Israel during the last few years, present legislation and standards are mostly of a practical nature, for solving immediate "pressing" problems. The time required for a thorough investigation of dose-effect relationships was not available, and consequently it was decided to rely upon the experience of more advanced countries in this field. Most of the Israeli air quality standards are, therefore, tentative, and when sufficient local data become available the standards will be [illegible].

Tentative Air Quality Standards for about 43 different pollutants have been adopted by the Ministry of Health. Those adopted for workroom atmospheres are the Threshold Limit Values for 1970, published by the American Conference of Governmental Industrial Hygienists; those used for radioactive air pollution are based on the recommendations of the International Commission on Radiological Protection.

A considerable effort was devoted to the preparation of Buffer Zone Standards. The various industries and trades were divided into six groups according to the distance between specific plants and residential areas. Each industry was studies according to the potential offenses or nuisances that might result to its neighborhood. The minimum buffer distances were 0, 50. 150, 500. 1000 and 2000 meters.

The first monitoring system installed is in the city of Tel Aviv. This system is composed of 12 fixed stations and 1 mobile station, measuring sulfur dioxide and soiling; some also measure wind direction and speed. Four of the stations measure nitrogen oxides and total hydrocarbons. An additional 15 stations for the cumulative measurement of settling dust and total sulfur compounds, using the "Lead Peroxide Candle" method, are distributed throughout the metropolitan area. Two continuous monitoring stations for sulfur dioxide were recently installed in Ashdad, and a similar system is now planned for Haifa. Semicontinuous surveys have been made of air pollution in Haifa, and of hydrogen sulfide, mercaptans and ammonia at the stabilization ponds of the Dan Region.

On a weight basis, approximately 160,000 tons of sulfur dioxide, 60,000 tons of nitrogen oxides and 250,000 tons of carbon monoxide are emitted annually. Among other sources of pollution is the relatively high level of settleable dust and particulates, including about 75,000 metric tons of particulates from the cement industry alone. The following 50 percentile ambient concentrations were found in Tel Aviv in 1970: sulfur dioxide 0.03 ppm, nitrogen oxides 0.05 ppm and carbon monoxide 2.0 ppm.

A comprehensive alert system adopted for the city of Tel Aviv specifies two independent sets of conditions, with operating controls for each. The first part specifies alert levels for sulfur dioxide and soiling index to control pollution resulting solely from the new [illegible]-megawatt power plant in Tel Aviv, which is the major source of sulfur dioxide. The second system specifies alert levels for sulfur dioxide, nitrogen dioxide, carbon monoxide, and soiling index which result from sources other than power plants, and the appropriate preventive procedures at each level.

Israeli standards for sulfur content of fuel specify a maximum of 0.1 percent in gasoline, 0.6 percent in diesel oil, and no present maximum in fuel oil. Tentative standards have also been issued relating stack height to emissions and to the height of surrounding buildings.

In general, present legislation does not provide detailed standards and no single enabling act defines the responsibility for controls. There is a series of older frame-acts, regulations and operational procedures that may be used to carry out any necessary action or preventive measures. The principal ones are listed below.

1. "Public Health Ordinance, 1940," together with the regulations based upon it, enables officials of the Ministry of Health to take appropriate action for the elimination of public health nuisances, including air pollution and odor nuisances.

2. "Criminal Law Ordinance, 1936" is a general act with sections enabling elimination of public nuisances, including air pollution, noise, and smoke offenses.

3. "Trade and Industries Ordinance, 1927," together with its set of "Special Conditions" (which are legal regulatory instructions) for various trades and industries, includes various instructions and standards pertaining to control of air pollution and offensive odors resulting from trades and industries.

4. "Law for Prevention of Nuisances, 1961" is the most recent general frame-act which, together with its various regulations, enables prevention of air pollution, noise, and "strong and unreasonable" odors. The law encourages local municipalities to issue by laws and regulations based upon it.

Besides these general acts, various specific laws and regulations enable elimination of certain specific nuisances. For example, the "Tel Aviv Power Plant Law, 1968" and its regulations set up specific standards, instructions and procedures pertaining to this specific power plant and its vicinity; "Transportation Regulation No. 155" forbids emission of excessive smoke from motor vehicles; and certain regulations of the "Workers Safety Act" permit a certain amount of control of indoor air pollution.

Trends

It is recognized that an all-encompassing air pollution law is needed to deal comprehensively with these problems and in addition to permit the budgeting of the money necessary to establish controls within the framework of the various local authorities. The passage of the law should be followed by the establishment of standards and the provision of manpower and equipment to supervise the control of pollutants emitted by industry and the municipalities. The supervision of air pollutant emission by motor vehicles requires definite action by the Registration Office of the Ministry of Transport and by special police patrols for the prevention of visible smoke emission.

Surveys of cities and industries are needed to determine the prevailing level of pollution and the amount of change with the passing of time. Industrial zones should be planned with the problem of air pollution taken into account. It is preferable, at least in the early stages, to carry out applied research in the field of air pollution and its prevention rather than to concentrate on pure research that could, in most cases, be conducted more efficiently in other countries that are already at a more advanced stage.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

A Committee for Air Pollution Research was set up in 1969 at the request of Deputy Premier Alion, under the National Council for Research and Development (NCRD), with eight member scientists from the major government and academic laboratories involved. This committee is now completing its final report, including recommendations to the Government for administrative action and for research. The NCRD also cooperated with the Israel Academy of Sciences and Humanities and its Committee for the International Biological Program and the Biosphere, which is now incorporated in the Israel National Committee on Biosphere and Environment. The Biosphere Committee is a coordinating body that includes members from the Ministries of Health, Justice, Agriculture, Development, Communications, Trade and Industry, Housing and the Interior, plus scientists and representatives of various public and scientific organizations such as the Israel Ecology Association, the Society for the Preservation of Nature, and the Petroleum Institute. The responsibilities of this committee include (1) defining problems requiring action in connection with the quality of the environment and its interactions with man, (2) recommending courses of action, including legislation and the training of personnel, and (3) representing Israel in the relevant international organizations. Its 1971 report to the United Nations on "The Environment in Israel" is a detailed review of basic information.

Several Ministries have responsibilities specifically related to air
pollution control. A new Commission of Directors General (of Ministries) for IL-04
the Environment, set up at the initiative of the Biosphere Committee, is to
coordinate among the various Ministries on matters of major interest. Mr.
Zwi Terlo, Director-General of the Ministry of Justice, is Chairman of this
Commission. The Ministry of Health is responsible for the general safe- IL-05
guarding of public health in Israel, for recommending standards and legislation,
and for monitoring environmental health conditions. It maintains the Division
for Air Pollution and Radiation Control at Tel Aviv, the largest center for
air pollution research in the country. The Ministry of Transport has a
Committee for Prevention of Air Pollution, and maintains nominal control over IL-07

motor vehicle emissions. New regulations on diesel smoke emissions have
been issued this year, but active enforcement may wait for the passage of
new enabling legislation. The Ministry of Transport also maintains the
government Meteorological Service at Beit Dagon, which is also the location IL-08
of the Volcani Institute of Agricultural Research of the Ministry IL-09
of Agriculture. This institute carries out numerous joint projects in
plant and animal physiology with the Departments of Meteorology and IL-14
Agriculture of the Hebrew University of Jerusalem. The Ministry of Labor
maintains a Laboratory of Environmental Hygiene, which monitors conditions IL-10
of dust, noise, and indoor climate in industry. The Institute for
Biological Research, under NCRD, conducts research on applied biology. IL-11

The Public Council for the Prevention of Noise and Air Pollution in IL-12
Israel is a voluntary organization that receives financial support from the
Ministry of Health. Its main office, known as MALRAZ is located in Tel IL-21
Aviv and has branches in Haifa and in other cities. These societies are
concerned with public and community aspects of environmental controls.
At the municipal level, there is little supervision of air pollution control, and no separate departments for this purpose have been established to date. Municipal advisory committees for air pollution control within the city limits have recently been set up in Tel Aviv and Haifa.

The laboratory and information facilities of the Israel Petroleum IL-13
Institute are involved in both air and water conservation at its Center
for Prevention of Air and Water Pollution in Tel Aviv. Most of the government and academic agencies concerned follow this general approach. There are no private air pollution monitoring services at this time.

Major academic programs for training in air pollution control are
maintained at the Hebrew University, at the Technion-Israel Institute of IL-13
Technology in Haifa (which has a Center for Environmental Engineering
Research in Civil Engineering and a separate Building Research Institute,
concerned with the effects of air pollution on urban planning), and at the
University of Tel Aviv, which sponsors a separate Institute for Nature

Conservation Research. The new Haifa University is setting up a related program in its Biological Institute. The Ministry of Education is sponsoring a system of field training hostel centers in practical ecology for youth groups and adults, through the Society for the Preservation of Nature in Israel. The Israel Ecological Society is a scientific society with open membership designed to encourage and promote research and educational programs concerning ecology.

IL 1 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME National Council for Research and Development
Committee for Air Pollution Research

ACRONYM

See also

ADDRESS
Prime Ministers Office
Hakirya, Building 3, Jerusalem

Tel (02) 39231

AFFIL

Title	PERSONNEL	Function
Prof.	J. Neumann	Chairman

Members: Prof. Z. Alterman, T. A. University, Prof. J. Tadmor, Nachal Soreque, Prof. M. Sitron, Biological Inst. Ness-Ziona, Mr. M. Gilad, Meteorological services, Dr. U. Mariney, Nat. Coun. Res. and Devel., Prof. A. Wachs, Technion Haifa, Dr. A. Donagi, Air Poll. & Radiation Lab, Tel Aviv.

AP aims and actions

1. Pointing out the main cause of A.P. in Israel and its effects.
2. Gathering data concerning research and measurements in Israel on A.P.
3. Suggestion of research and measurements vital for solving Israeli A.P. problems according to significance.
4. Recommend to the National Council for Research and Devel. on the action needed to stimulate more research concerning A.P.

Comments

Organizing committee set up in 1971 by Deputy Premier Allon;

Final report in preparation.

IL 2 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Israel National Committee on Biosphere and Environment

ACRONYM

See also 1,4,6,7,9,11,18,19

ADDRESS
Prime Ministers Office
Hakirya, Building 3, Jerusalem

Tel (02) 39231

AFFIL

Title	PERSONNEL	Function
Chairman	M. Even-Ari	Prof. Hebrew University, Dept. of Botany
Dr.	E.Tal	National Council for Research and Development

AP aims and actions

Main coordinating body for all aspects of the environment including problem definitions, recommendations for training, research, publications, and representing Israel in relevant international organizations. Chairman and members appointed jointly by the National Council for Research and Development and the Israel Academy of Sciences and Humanities, including representatives of appropriate Ministries and of various public and scientific bodies.

Comments

Publishes information bulletin, "The Biosphere" (in Hebrew) operates through 11 subcommittees, including air pollution, urbanization, and influence of the environments on man.

IL 1 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME The Haknesset (Parliament) Committee for Ecology

ACRONYM

ADDRESS

Haknesset Building,
Jerusalem

Tel 02/61211

AFFIL

Title	PERSONNEL	Function
M.K.	J. Tamir	[illegible]

AP aims and actions

Central Committee of Parliament for consideration of new laws and regulations relating to conservation of air, water, and soil.

Comments

[illegible] GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Commission of Director(s)-General(of Ministries) for the Environment

ACRONYM

See also

ADDRESS

Ministry of Justice
Salah-a-Din, Jerusalem

Tel [illegible] 2101

AFFIL

The Israeli Cabinet

Title	PERSONNEL	Function
Mr.	Zvi Terlo	Chairman, Director-General of Ministry of Justice

AP aims and actions

Government commission to make decisions on matters of principle or of major importance to environment, where necessary between the various ministries.

Comments

Set up in 1971 at the initiative of the Israel National Committee on Biosphere and Environment(IL-01)

IL 05 GOV [✓ A] [✓ B] C [✓ D] E F 01 02 [✓ 03] 04 [✓ 05] [✓ 11] 12 13 [✓ 14] 15 [✓ 21] [✓ 22] [✓ 23] [✓ 24] [✓ 25] 31 32 33 34 35 [✓ L] M S [✓ 1] 2 3 9/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: Division of Air Pollution and Radiation Control
Ministry of Health

ACRONYM
See also

ADDRESS
27 Professor Shor Street
Tel Aviv

Tel (03) 440026
AFFIL

Title	PERSONNEL	Function
Dr.	Alexander Donagi	Division Head
Mr.	Meir Nase	Asst. Division Head
Dr.	Joseph Kendler	Head, Chem. Res. Dept.
Mr.	Nathan Mazor	Head, Admin. Dept.

AP aims and actions

Central body for the appraisal and control of air pollution, radiation hazards, noise and odor control.

Advisory capacity to legislative bodies, supervises implementation of laws and regulations, conducts research, training courses, and provides advice and information to public and semi-public organizations.

Comments

Central laboratory is the biggest center of A.P. research in Israel.

IL 06 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Committee for Preparation of Regulations Implementing the Law for Prevention of Nuisances - 1969

ACRONYM
See also

ADDRESS
c/o Ministry of Health (IL-05)

Tel
AFFIL
Ministry of Health

Title	PERSONNEL	Function
Dr.	A. Donagi	Chairman
Prof.	I. Gross (Hebrew Univ.)	Chairman, Sub-Committee on Air Pollution
Dr.	A. Mann (Donollo Hospital Tel Aviv)	Chairman, Sub-Committee on noise

AP aims and actions

Committee of 15 members from the public and from government to recommend ordinances implementing the 1969 Kanowitz Law.

Comments

IL 7 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 [illegible]

Country No Type Functions Sources Effects Controls Remarks [illegible]

NAME The Committee for Prevention of Air Pollution

Min of Transport

ACRONYM

See also

ADDRESS

Min. of Transport, 9, Ahad Ha'am
St., Tel Aviv

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	[illegible]	Chairman, [illegible] Ministry of [illegible] Transport

AP aims and actions

Comments

[illegible] of motor vehicles [illegible], has been [illegible]

[illegible] regulations [illegible]

IL GOV A B C D E F [illegible] 04 05 11 12 13 14 15 [illegible] M S [illegible]

Country No Type Functions Sources Effects Controls Remarks Size Status Lang

NAME Israel Meteorological Service

Min of Transport

ACRONYM

See also

ADDRESS

Beit Dagan

Tel [illegible]

AFFIL

Ministry of Transport

Title	PERSONNEL	Function
	[illegible]	Director, research and development dept.
	Mr. [illegible] M. [illegible]	Director, environmental [illegible] Services

AP aims and actions

Comments

1. [illegible] meteorological aspects of air pollution.
2. Air quality measurements.
3. Forecasting air pollution potential.
4. Air pollution climatology.
5. Atmospheric radioactivity and turbidity, in cooperation with Atomic Energy Commission and Soreq [illegible] for evaluation of environment [illegible].
6. [illegible] on [illegible] problems.

Publications

11	9	GOV	[✓ A] B C [✓ D] E F	01 02 03 04 05	11 [✓ 12] 13 14 15	21 22 23 24 25	31 32 33 34 35	[✓ L] M S	1 2 3		S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Volcani Institute of Agricultural Research

Ministry of Agriculture

ACRONYM

See also

ADDRESS
P.O. Box 6
Beit Dagon
Israel

Tel (03) 944334

AFFIL

Ministry of Agriculture

Title	PERSONNEL	Function

AP aims and actions:

Departments of Plant Protection and others conduct Research Projects on Agricultural, Meteorology, and Environmental problems in plant and animal physiology.

Comments:

Many joint projects at Beit Dagon with Hebrew University

Faculty of Agriculture

11		GOV	[✓ A] B C [✓ D] E F	01 02 03 04 05	[✓ 11] 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M [✓ S]	1 2 3		T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Laboratory of Environmental Hygiene

ACRONYM

See also

ADDRESS

59 Eilat St.
Tel Aviv - Yafo

Tel

AFFIL

Ministry of Labor

Title	PERSONNEL	Function
Engr.	Nissi [illegible]	Head of Laboratory

AP aims and actions:

Tests and monitors environmental conditions in industry.

Comments:

IL 11 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M

Country No Type Functions Sources Effects Controls Remedies Size Income [illegible]

NAME Israel Institute for Biological Research

ACRONYM [illegible]

ADDRESS
P.O. Box [illegible]
Ness Ziona
Israel

Tel. [illegible]

AFFIL.
National Council for Research
and Development

Title	PERSONNEL	Function
Prof.	[illegible]	[illegible]

AP aims and actions

General research on applied biology, including problems related to air pollution.

Comments

[illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S [illegible]

Country No Type Functions Sources Effects Controls Remedies Size Income Date

NAME The Public Council for the Prevention of Noise
and Air Pollution

ACRONYM [illegible]

Size [illegible]

ADDRESS
[illegible]
[illegible] Aviv - Yafo

Tel. [illegible]

AFFIL.

Title	PERSONNEL	Function
Mr.	[illegible]	[illegible]
Mr.	A. [illegible]	[illegible]

AP aims and actions

1. General public education and maintaining desirable levels of air quality (including noise).
2. Assist in preparation of regulations in this field.
3. Active in public forums: Press, Radio, TV
4. Help establish similar councils in other parts of Israel.

Comments

Issues [illegible]

IL 13 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Center for Prevention of Air and Water Pollution
Israel Petroleum Institute

ACRONYM

See also

ADDRESS
The University St., Ramat Aviv,
Tel Aviv

Tel. (03) 419011, (03) [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	Menachem Chen	Chairman
Dr.	Gottesman	
Prof.	Pickard	
Mr.	N. Zuckerman	
Dr.	A. Donagi	

AP aims and actions

Prevention of A.P. and Water Pollution from petroleum.

Comments

The Institute is equipped with a laboratory and has an up-to-date information center.

IL 14 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Dept. of Atmospheric Sciences
Hebrew University

ACRONYM

See also

ADDRESS
Jerusalem
Israel

Tel. (02) 39003, (02) 35291

AFFIL

Title	PERSONNEL	Function
Prof.	J. Neumann	Head of Department

AP aims and actions

Meteorological aspects of air pollution, ozone concentration measurements in Jerusalem and research.

Related studies in departments of botany, medical ecology.

Comments

reports

IL [illegible] A A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Dept. of Environmental Sciences

University of Tel Aviv

ACRONYM

See also

ADDRESS

Ramat Aviv
Israel

Tel (03)-416111/253

AFFIL

Title	PERSONNEL	Function
Prof.	Z. Alterman	[illegible]

AP aims and actions

Research on air pollution, [illegible], and studies of [illegible] atmosphere.

University also conducts environmental studies (water and air) in Science Departments of Zoology, Botany and [illegible], and [illegible] studies on problems in environmental health.

Comments

[illegible]

IL [illegible] A A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Institute for Nature Conservation Research

ACRONYM

See also

ADDRESS

Tel Aviv University
Tel Aviv

Tel

AFFIL

Title	PERSONNEL	Function
	A. [illegible]	Head

AP aims and actions

Comments

IL 17 ACD [✓ A] [✓ B] C [✓ D] E F [✓ 01] [✓ 02] [✓ 03] [✓ 04] 05 [✓ 11] 12 [✓ 13] [✓ 14] 15 21 [✓ 22] 23 [✓ 24] [✓ 25] 31 32 33 34 35 [✓ L] M S [✓ 1] 2 3 3/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Sanitary Engineering Lab
Technion Faculty of Civil Eng'rg

ACRONYM
See also

ADDRESS Technion
Haifa

Tel (04) 225111/359

AFFIL

Title	PERSONNEL	Function
Prof.	A. Wachs	Head; Dean of Faculty

AP aims and actions

Air pollution research and measurements. Measurements were and are carried out especially in the Haifa District, but also in other parts of the country.

Regular courses on air pollution, field surveys on incinerators, motors, effects of aerosols, and epidemiology.

Plans set up for a "Center of Research in Environmental Engineering".

Comments

Reports

IL 18 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Technion Building Research Institute

ACRONYM
See also

ADDRESS Israel Institute of Technology
Haifa

Tel (04) 225111

AFFIL

Title	PERSONNEL	Function
Prof.	B. Givoni	Senior Research Associate Dept. of Building Climatology, Technion

AP aims and actions

Physiological and sensory effects of air and water quality on Urban planning.

Effect of planning on motor vehicle air pollution

Comments

IL [illegible] ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Haifa University
Biological Institute

ACRONYM

See also

ADDRESS
Haifa

Tel

AFFIL

Title PERSONNEL Function

AP aims and actions

Comments

A new university; setting up research programmes on Monitoring Air and Water Pollution.

IL 2 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME The Israel Ecological Society

ACRONYM

See also

ADDRESS
Gessner Institute
Tel Hashomer Hospital
[illegible] Israel

Tel [illegible]

AFFIL

Title PERSONNEL Function

Prof. [illegible] President

AP aims and actions

Comments

1) Scientific society dealing with ecological problems.

2) To encourage, spread and develop the ecological sciences, to encourage and promote research, and initiate education concerning ecology.

3) Open membership.

IL	21	SOC	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME The Haifa Public Council for Conservation of Environmental Quality

ACRONYM

See also

ADDRESS

18a Ruth St.
Haifa, Israel

Tel (04)88320

AFFIL

See "Malraz" (IL-12)

Title	PERSONNEL	Function
Mr.	A. Perenio	Chairman

AP aims and actions

1) Maintaining quality of environment

2) Esthetics of Urban Setting

3) Preservation of Public Natural (Greenery, Parks, Shoreline) Resources

4) Active in Public Forums

Comments

Publishes bulletins and occasional reports

IL	22	SOC	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME Society for the Preservation of Nature in Israel

ACRONYM

See also

ADDRESS

4, Hashfela Street
Tel Aviv, Israel

Tel (03) 35063

AFFIL

Ministry of Education

Title	PERSONNEL	Function
Mr.	A. Alon	Secretary General

AP aims and actions

Maintains a system of 12 field study centers for week-day training of students and week-end training of youth groups and adults in research, education and management, in practical ecology.

Comments

Bimonthly Journal on conservation
"Nature and the Land"
(Teva Va'aretz)

IL 21 SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME The Haifa Public Council for Conservation of Environmental Quality

ACRONYM

See also

ADDRESS

18a Ruth St.
Haifa, Israel

Tel (04)188320

AFFIL

See "Malraz" (IL-12)

Title	PERSONNEL	Function
Mr.	A. Peranio	Chairman

AP aims and actions:

1) Maintaining quality of environment

2) Esthetics of Urban Setting

3) Preservation of Public Natural (Greenery, Parks, Shoreline) Resources

4) Active in Public [illegible]

Comments:

Publishes bulletins and occasional reports

IL 22 SOC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Society for the Preservation of Nature in Israel

ACRONYM

See also

ADDRESS

4, Hashfela Street
Tel Aviv, Israel

Tel (03) 39063

AFFIL

Ministry of Education

Title	PERSONNEL	Function
Mr.	A. Alon	Secretary General

AP aims and actions:

Maintains a system of 12 field study centers for week-day training of students and week-end training of youth groups and adults in research, education and management, in practical ecology.

Comments:

Bimonthly Journal on conservation "Nature and the Land" (Teva Va'aretz)

ITALY

GENERAL AIR POLLUTION BACKGROUND

Geography

It has often been said that there are two Italies: the industrial north and the impoverished south (the Mezzogiorno), but the lines of this distinction, once so starkly true, are slowly growing less clear with the development of industry in Sicily, Bari, Taranto, Naples, and so on, under the guidance and assistance of the Government fund: Cassa per il Mezzogiorno. For the time being, however, it remains true that potential sources of pollution are concentrated in the north, especially in and around the Po Valley, notably Milan.

Italy has a rapidly increasing population which is at present about 54 million. For its area, the country is densely populated because so much of it is mountainous. The principal towns (north to south) are:

Milan	(Milano)	1.7 million
Turin	(Turnio)	1.1 million
Genoa	(Genova)	0.8 million
Venice	(Venezia)	0.4 million
Bologna		0.5 million
Florence	(Firenze)	0.4 million
Rome	(Roma)	2.5 million
Naples	(Napoli)	1.2 million
Bari		0.3 million
Palermo		0.6 million

Rome is the political and commercial capital.

The most important economic activity in Italy is agriculture; 40 percent of the population devote their energies to this. Industry occupies 30 percent of the population, but the distribution is very uneven. [illegible] third of the industry activity takes place in the north, [illegible] between Genoa, Turin, Milan and Venice where hydroelectric [illegible] able and transport is easier.

Bauxite or iron pyrites are the only extensive mineral resources, though mercury, sulfur, lead and zinc are worked. There is very little indigenous coal or oil, and the natural gas resources of the Po valley are nearing exhaustion. However, it is thought that further gas or oil may lie off the Adriatic shore. Gas is imported from Libya.

Aluminum plants are active at Porto Marghera (Venice), Bolzano and Mori (Lake Garda); steel is produced at Genoa, Turin, Milan, Cogne (Val d'Aosta), Portoferraio/Piombino, Terni and Naples. Much of the rest of Italian industry is based on conversion: motor manufacture (Turin), ship-building (Genoa), textiles, chemicals, and light engineering (Milan, Naples). Because of the pattern of fuel resources, industry makes considerable use of electrical power.

Domestic and commercial heating is largely by oil or electricity. Until recently, special light fuel oils were extensively used for these applications, leading to air pollution problems with particulates of sulfur oxides. A change to gas oil for domestic and similar heating is part of the new clean air legislation.

Political Features

Interest in and concern about air pollution in Italy has increased appreciably since 1966. All the communications media keep the public informed of major events, and most of the administrative and political bodies now consider air pollution control, prevention or abatement as primary problems for solution.

Citizens' groups for air conservation are to be found in many of the larger towns. The most significant, "Italia Nostra," has been very active 1.086
in the Milan Clean Air campaign, which was developed through seminars,

conferences, etc. The local press supported this and the public was invited to sign a document, made available at several public sites in the area, supporting the "Italia Nostra" activity.

The press, local administrative and political bodies, civil groups and public opinion play a growing role in influencing decisions for the installation and/or expansion of industrial works, power plants, refineries, etc., in the light of their air pollution potential. At present, petroleum refineries and petroleum problems are widely identified among the important sources of air pollution; for the time being, other industrial emissions and vehicle emissions receive less attention, possibly because they are more diverse and appear to present greater difficulties for control.

Present Controls

National, Local

The Italian Civil and Penal Codes contain sections enjoining "good neighborliness" upon individuals and organizations but, as in other countries, these provisions are largely ineffective in practice. Local legislation is possible under the public health laws, and Milan had an ordinance on this basis to control fuel quality for certain applications (now superseded by the national Regulation on Domestic Heating).

The effective legislation concerning air pollution is contained in Law No. 615 issued on July 13, 1966, under the title "Provvedimenti contro l'Inquinamento Atmosferico" (Provisions against Air Pollution) and published in the "Gazzetta Ufficiale" of August 13, 1966. The structure and principal features of this "framework" Law are discussed below and summarized in Appendix A.

Under Law 615, Italian territory is grouped by urban population into three categories: Zone A, comprising moderate-sized towns in the Center and North, and rather larger areas in the South; Zone B, comprising the largest towns; and the remainder. The communes falling into the A and B categories were identified in a Ministerial Decree of November 23, 1967 (Gazzetta

Ufficiale, December 13, 1967) later amended, in accordance with procedures for re-classification, on February 1, 1971. As is described below, the division of the territory into zones is relevant to the qualities of fuel that may be used there.

The technical aspects of Law 615 are being defined through three sets of Regulations concerned respectively with Domestic Heating, Industrial Emissions, and Vehicular Emissions. The status and principal provisions of these regulations are outlined below and in Appendix B.

The Domestic Heating Regulations were published on January 9, 1969, with amendments published on March 8, 1971. Using the zoning provisions and fuel quality requirements of Law 615, the regulations define the types of heating equipment affected (space heating, water heating for domestic and similar uses, cooking, dish-washing, medical disinfection and sterilization, laundry and similar uses, refuse incinerators below 1 ton per day, and bakeries). They also set out the procedures and organizations for supervision and enforcement. The Domestic Heating Regulations were revised and reissued as No. 1391 on March 8, 1971.

The effect of the regulations is to require the use of the following liquid fuels (there are no limitations on fuel usage in the unclassified areas):

Thermal capacity/unit, kcal/hr	Zone A	Zone B
30,000	gas oil	gas oil
30,000 - 500,000	lt. fuel oil	gas oil
500,000 - 1,000,000	lt. fuel oil	lt. fuel oil*
1,000,000	hvy. fuel oil	hvy. fuel oil

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*Amendments recently put forward for Law 615 propose gas oil for this application.

The relevant fuel qualities are:

	viscosity, °E/50°C	sulfur, %
gas oil	—	1.1*
light fuel oil	5 maximum	3.0
heavy fuel oil	5 minimum	4.0

In general, the domestic heating regulations require most heating units to be fired with gas oil instead of the light residual fuel oil previously burned for taxation reasons (an impost repealed in 1968), but although the domestic heating regulation became officially effective on July 9, 1968, it is still not fully operative because the Fire Brigade and Regional, Provincial and Municipal authorities lack manpower to inspect and approve installations.

The Industrial Emissions Regulations were published in the Gazetta Ufficiale on June 9, 1971, and are expected to come into effect in September 1971. They require all industrial plant, new and old, in Zones A and B to be equipped with means for abating pollution to the lowest technically achievable levels, but always to the levels established in the operating license for the plant. The pollution is to be monitored at the fence by the plant concerned. Ground level concentrations must not exceed limits established by the Regulations (these are summarized in Appendix E). Temporary waivers are granted for older plant and during startup, but failure of abatement facilities requires either the use of stand-by facilities or shut-down of the operating unit concerned.

The Heavy Vehicle Regulations, published on June 9, 1971, will come into effect in December 1971. They set smoke opacity limits for all new and used diesel-engine vehicles. The optical equipment is to be defined by the Direzione Generale dei Trasporti (Department of Transport).

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*Gas oil sulfur to be reduced to 0.8 percent from January 1972 (proposal).

Regulations to control emissions from gasoline-engine [illegible] into two parts. The Regulation for new cars follows the limitations on carbon monoxide and hydrocarbon emissions and blow-by control of ECE Regulation 15 and Directive 70/220/CEE for type approval, and is expected to be published in October 1971. For used cars, regulations are being drafted to limit carbon monoxide emissions at idle to the minimum levels consistent with good driveability.

Administration

As indicated in Appendix A, the early Articles of Law 615 concern the establishment of a Central Commission and of Regional* Commissions for air pollution: the constitution and responsibilities of these Commissions are shown in Appendix C. These Commissions are responsible for advising central and regional health and administrative authorities in all air pollution matters. Within the present Provinces, the Laboratorio Provinciale di Igiene e Profilassi (Provincial Laboratory of Hygiene and Preventive Medicine) is the official body charged with responsibility for the analytical work required in the control of air pollution. Hitherto, several Municipal Hygiene Offices have undertaken this survey work (as, for example, in Milan). These Municipal Hygiene Offices remain responsible for health aspects of pollution. The enforcement of the air conservation regulations, regarding inspection and licensing of heating plant, fuels, safety and so on, falls to the local Vigili del Fuoco (VV.FF - Fire Brigade), an independent body responsible for dealing with fires, building accidents, floods, etc., which takes responsibility from the Divisione dei Servizi Anti-Incendio e delle Protezzione Civile of the Ministero degli Interni (Ministry of the Interior).

The Government may set up special legislative provisions for Milan and its province in recognition of the special air pollution problems there due to the peculiar geographical and meteorological factors involved.

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* In 1970, a new administrative structure set up 16 Regions in place of of the previous 90 Provinces. Some of the administrative bodies have still to establish their (air pollution) responsibilities.

The names of the 16 Regions are: Trentino-Alto-Adige, Valle di Aosta, Liguria, Lombardia, Veneto, Emilia-Romagna, Toscana, Lazio, Campania, Abbruzzo, Molise, Puglia, Calabria, Basilicate, Sardegna, and Sicilia.

Trends

Current Interests

As indicated above, considerable effort is currently being expended in establishing the administrative organization required under Law 615 and in implementing the requirements of the various regulations. Despite the problems, especially in dealing with the numerous small domestic units, improvement in air quality is expected to be quickly remarkable.

At government level, interest continues in bringing under control all forms of pollutant emissions, not excluding water pollution.

Foreseen Controls

As mentioned above, controls on emissions from both new and used cars are being prepared, and were expected to come into force in 1972.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

Under Law 615, the key organization is undoubtedly the Commissione
Centrale contro l'Inquinamento Atmosferico (Central Commission for Air 1.001
Pollution), together with its attendent Regional Commissions. As indi- 1.002
cated by their membership and responsibilities (listed in Appendix C),
these Commissions comprise a wide range of knowledge and experience.
Their role can be expected to grow further with the evolution of the
technical Regulations within Law 615.

The legislative, technical and hygiene aspects of air pollution are
the responsibility of various groups and departments reporting to the
Minister of Health; a "chart" of these organizations is shown in Appendix
F. The Instituto Superiore di Sanità (Upper Health Institute) advises the
Minister directly on all technical and health matters, and has several
well equipped laboratories covering many aspects of hygiene. Its Labor-
atorio di Ingegneria Sanitaria (Health Engineering Laboratory) includes 1.004
air pollution, noise and radioactivity amongst its functions. In effect,
this Laboratory is the principal governmental laboratory for air pollution
hygiene, though much supporting work is carried out in University institutes.

In the Ministry of Health, the administrative department responsible for preparing the legislation and regulatory controls on air pollution is the Direzione Generale dell'Igiene Pubblica (Department of Public Hygiene). This Department coordinates the views of other Ministries and is assisted—as are other Health Departments—by the large Consiglio Superiore di Sanità (High Council for Health), an expert consultative body attached to the Ministry of Health, with one section for air pollution matters.

Air pollution matters of local concern are handled by the Comitati Regionali contro l'Inquinamento Atmosferico (Regional Committees against Air Pollution), set up under Law 615 and whose constitution and functions are described in Appendix C. Within the emerging Regions, interest in and responsibility for air pollution activity has hitherto arisen within the Hygiene department of the Comune (Municipality). Naturally, the greatest activity has occurred where problems have been most evident: Milan, Turin, Genoa, and so on. However, the Provincial Laboratories now have official responsibility for surveys and measurements of air pollution under Law 615.

The municipal hygiene departments also assist with abatement measures and, in the past, in the application of the local ordinances designed to protect public health. Thus, in Milan, the very active Ufficio di Igiene e Sanità del Comune di Milano (Hygiene Department of Milan Municipality) 1.023 has long undertaken air quality surveys in the Milan urban area. It is currently assisting the local Vigili del Fuoco (Fire Department) in inspecting domestic heating installations and in enforcing the requirements of the Domestic Heating Regulation. The Sezione IIbis: Fisica Sanitaria (Health Physics Section), responsible for drinking water and air and water pollution, has recently been enlarged and its work is soon to be reallocated among two new divisions: one for air and water pollution of domestic and vehicular origin, and the other for pollution from industry.

This municipal department is now assisting the officially responsible Laboratorio Chimico Provinciale di Milano (the Milan Province Chemical 1.024 Laboratory) in setting up a Sulfur Dioxide Survey Network in the area.

based on Philips telemetering instruments and Rijnmond experiment. NL.008
Concentrations and size ranges of ambient praticulates are also being measured and analyzed from continuous filter strips. Similar monitoring networks have been set up in Turin and Genoa, coordinated respectively by the Turin Hygiene and Prophylaxis Laboratory and the Institute of Hygiene of Genoa University.

Research and other fundamental studies of air pollution problems are undertaken in a small number of national institutes, at a large number of university institutes, and by a few industrial associations.

Among the national institutes, one is predominant. The Consiglio
Nazionale delle Ricerche (CNR--National Research Council) is responsible I.006
for coordinating and supporting many aspects of research in Italy. Its own Laboratorio sull'Inquinamento Atmosferico (Air Pollution Laboratory), at present located in Rome University, coordinates all Italian air pollution research and represents the country on international groups. It promotes education in air quality conservation, and is attempting to standardize such matters as monitoring equipment and techniques.

CNR supports the activities of other laboratories: for instance, the
Instituto di Fisica dell'Atmosfera (Institute of Atmospheric Physics) I.007
which studies ambient radiation; the Instituto Nazionale Motori (National I.008
Engines Institute) at Naples, which examines vehicle emissions detoxing
systems; and the Stazione Sperimentale per i Combustibili (Experimental I.011
Fuels Station). This last is a large and very active research laboratory and documentation center, one of eight experimental stations reporting to the Ministero dell'Industria, del Commercio e dell'Artigianato (Ministry for Industry, Commerce and Small Industries). Its activities include research on flue gas cleaning and fuel oil desulfurization (it is the only Italian organization tackling the latter), and studies of vehicle exhaust emissions, all directly supported by CNR. It undertakes commissioned work
on fuel quality, and is also cooperating (with the Milan Laboratorio I.024
Chimico Provinciale) in a survey of urban pollution organized by Esso's
Research Center in England. GB.083

In the academic world, conservation problems are handled at most Universities in the Instituto di Igiene (Hygiene Institute), but occasionally the faculties of Engineering or Chemistry may be involved. At least half of the 21 State and 5 'Free' universities in Italy have a Hygiene Institute with air pollution activities but, as with official or industry activity, interest in air pollution tends to be concentrated in those areas where the problems are most apparent.

At the Instituto di Igiene dall'Università di Genova, Professor Petrilli has long enjoyed an international reputation for his work on ambient air pollution and its effects on health; studies of carbon monoxide in road tunnels and in drivers' blood have recently been completed. I.074

Professor Zurlo of the Instituto di Medicina del Lavoro (Institute of Occupational Hygiene) at Milan University has investigated fluorides and acrolein in connection with workers' health. I.06

Professor Seppilli of the Instituto di Igiene del'Universita di Perugia has measured the concentrations of polycyclic hydrocarbons in confined spaces, and Professor Valori of Rome University's Instituto di Igiene has studied the emission of several different polycyclic hydrocarbons from car engines under various conditions. (Related investigations are also in hand at the Stazione Sperimentale per i Combustibili--I.011.) I.075 I.076

At the Instituto di Fisica Tecnica (Institute of Technical Physics) at Trieste University, Professor Finzi-Contini has made studies of the natural decay of sulfur dioxide and has also prepared a computer model of atmospheric diffusion. Similar work on the atmosphere is being carried out by Professor Santomauro at the Osservatorio Meteorologico di Brera (Brera Meteorological Observatory) in Milan. I.078 I.070

Many university professors provide a consultancy service for industry. Professor Padovani (now retired from the Stazione Sperimentale per i Combustibili) and Professor Rigamonti (also retired, from Turin Polytechnic), Professor Petrilli (Genoa Hygiene Institute), Professor Ferraiolo (Genoa I.081 I.082

Chemical Plant Institute), Professor Santomauro (Brera) and Professor
Finzi-Contini are particularly to be noted. Professor Liberti and Dr.
Cantuti of the Analytical Chemistry Institute at Rome University have I.077
close connections with CNR (I.006).

The views of Italian industry are partly coordinated through
CONFINDUSTRIA, the general confederation of non-nationalized companies, I.041
but nationalized industries channel their opinions through the responsible
Ministry.

Probably as a result of public and government interest in the potential
for pollution in the refining and utilization of oil products, the
oil industry is both active itself and associated with a number of active
organizations. Air quality surveys have been made around most Italian
refineries, usually with the assistance of one of the consultant professors
mentioned above. CUNA (Comitato Unificazione Nazionale Autoveicoli-- I.046
National Committee for Vehicle Standardization), supported jointly by
the oil and motor industries, correlates fuel specifications, vehicle
emissions test procedure, and similar matters.

The Unione Petrolifera (UP--Petroleum Industry Association) is an I.050
information group which also provides a means of coordinating oil industry
opinions. A working group is reviewing sulfur dioxide monitoring techniques
with a view to proposing a standard procedure for official recognition.
Vehicle emission aspects are left, however, to CUNA and to ANFIA I.049
(Associazione Nazionale fra Industria Automobilistichi--National Association
of the Automobile Industry).

An interesting development is a research agreement between Fiat, ENI, I.055
Esso and Mobil* to undertake a pooled investigation on the control of
vehicle emissions: i.e., car detoxing systems and fuel quality effects,

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*Fiat - Fabbrica Italiana Automobile Torino I.053
ENI - Ente Nazionale Idrocarburi I.052
Esso - Esso Standard Italiana I.054
Mobil - Mobil Italiana

and also the air quality in three significant towns (Milan, Rome and Turin), for which the Institute of Hygiene of Rome University (I.076) is the agent.

Esso Standard Italiana is also undertaking studies of ways of reducing emissions from automobiles, as well as making surveys around its refineries and cooperating with Esso Petroleum Co. Ltd. (U.K....) in [illegible] urban pollution study (in Italy in Milan - See also I.011 and I.024).

Other industries are now beginning to develop air pollution groups. Thus ASSCHIMICI (Associazione Nazionale dell'Industria Chimica--National [illegible] Association of the Chemical Industry) is proposing to establish an advisory committee for air pollution questions.

Social pressure groups exert their greatest activity in the Milan area, even the country-wide "Italia Nostra." Two local groups are "Lega I.086 Italiana" (Lega Italiana contra i Fumi ed i Rumori--Italian League against I.083 Smoke and Noise) and CRIAL (Centro Regionale Inquinamento Atmosferico I.087 Lombardia--Regional AP Center of Lombardy).

APPENDIX A

AIR POLLUTION LAW 615
STRUCTURE AND MAJOR FEATURES

Approved: 13 July 1966
Published: 13 August 1966
Effective: 13 February 1967

The Law contains 7 Sections comprising 27 Articles divided as follows:-

S.I Art. 1-7	General arrangements	Application - division of National Territory into Zones - establishment and functions of Central and Regional Commissions - provisions for making surveys of AP.
S.II Art. 8-10	Heating plant	Requirements for heating plant >30 000 k.cal/h - regulations for construction and modification - approval by Fire Dept., appeal to Prefect, penalties.
S.III Art. 11-14	Fuels	Fuel types and characteristics permitted in the various Zones for plant of various heating capacities - records, appeals and penalties.
S.IV Art. 15-19	Operation and Control	General operating requirements - licences for plant >200 000 k.cal/h/unit, and penalties - records, supervision of fuels and emissions, penalties.
S.V. Art. 20-21	Industries	General requirements for emission control for various industry classifications - supervision, penalties, cessation of operation, responsible authorities - implications for town planning.
S.VI Art. 22-24	Motor Vehicles (Otto and Diesel)	General requirements - responsible authorities - penalties - periodic testing.
S.VII Art. 25-27	Further arrangements	Provision for detailed regulations - census of heating plants - responsibilities of Fire Depts.

APPENDIX B

STATUS OF AIR POLLUTION REGULATIONS

Regulation	Status	Date of publication	Major fields of application	Limitations involved
Domestic and other civil uses	In force	9 Jan 1968 and 8 Mar 1971	Domestic heating and hot water, cooking, hygiene, incinerators, bakeries, laundries, and similar uses	Viscosity and sulfur content of oil fuels
Industries	In force Sep 1971	9 Jun 1971	All polluting industries	Ground level concentration of wide range of pollutants
Heavy vehicles	In force Dec 1971	9 Jun 1971	Diesel engines	Smoke emissions
Cars, used	Under study	End of 1971	Gasoline engines	CO emissions at idle
Cars, new	Approved	1 Oct 1971	Gasoline engines	CO/HC emissions to ECE standards

APPENDIX C

COMMISSIONE CENTRALE CONTRO L'INQUINAMENTO ATMOSFERICO (I.001)

Central Commission for Air Pollution

Constitution as laid down in Law 615:-

director general, president or head of:
    Public Hygiene and Hospitals Service, Min. Health
    Fire and Civil Security Service, Min. Interior
    Urban Areas and Hygiene, Min. Public Works
    Energy Sources, Min. Industry
    Industrial Production, Min. Industry
    Civil Traffic, Min. Transport
    2nd Section, Council of Public Works
    Occupational Hygiene Inspectorate
    Chemical Laboratory, Istituto Sup. di Sanità
    Health Engineering Lab. Istituto Sup. di Sanità
representatives from:
    Consiglio Superiore di Sanità
    Min. Scientific Research
    Min. for State Participation
    Meteorological expert
    Nat. Assn. for Control of Combustion
    Stazione Sperimentale per i Combustibili
    Associazione Termotecnica Italiana
Secretary from Min. Health

Responsibilities

- to look into all matters connected with AP,
- to advise on all AP questions put forward by public or private organisations,
- to promote studies and research into AP problems.

Status

Established.

APPENDIX D

REGIONAL COMMISSIONS FOR AIR POLLUTION

COMMISSIONE REGIONALI CONTRO L'INQUINAMENTO ATMOSFERICO (100)

Constitution as laid down in Law 615:-

president - President of Region (or of administration of chief town)
vic. pres. - Health assessor of Region (or of administration of chief town)
Provincial health dept. of chief town
Health office of region
Regional coordinator of public works
Civil traffic dept.
Provincial Inst. of Hygiene (2)
Meteorological expert
Regional Fire Dept. (2)
Local section of Safety Inspectorate
Regional Occupational Hygiene Inspectorate
Representative of province or region
Representative Nat. Municipal Assn.
Chamber of Trade for chief town (2)
Secretary from Min. Health.

Responsibility

- to look into all regional matters connected with AP,
- to advise on provisions for adoption by Communal Authorities, in accordance with the law,
- to promote studies, research and initiative against AP.

Status

Being established. Already established:-

Milan: Via Juvara 22, president: Dr. E. Peracconi
20100 MILANO
(tel: 717751)

Turin: Via Maria Vittoria 12, president: Dr. G. Oberto
10100 TORINO secretary: Dr. R. Benzo
(tel: 5756)

Genoa: Piazzale G. Mazzini 2, president: Dr. Pastorino
16100 GENOVA
(tel: 5499)

APPENDIX E

DRAFT REGULATION FOR INDUSTRIAL EMISSIONS
STRUCTURE AND MAJOR FEATURES

Section	Title	Coverage
I Art. 1-2	General	Fields of application - definitions
II Art. 3-4	Abatement plant	Design and operation
III Art. 5	Industrial plant	Requirements for installation or modification - documents
IV Art. 6	Operation	Surveillance and inspection
V Art. 7-9	Emissions	Limits* and supervision
VI Art. 10-11	Dispositions	Interim and final

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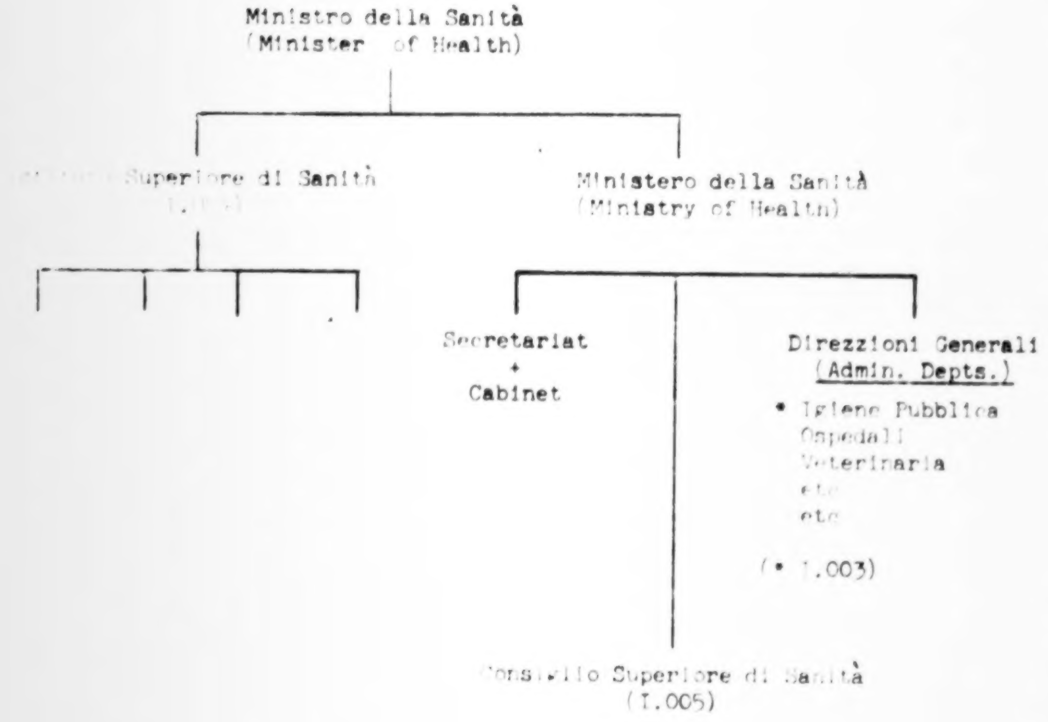
*The control of emissions is based on limits for the ground level concentration of various pollutants. The following values have been approved:

Pollutants	Peak values[(a)] ppm	Peak values[(a)] mg/m^3	Average values[(b)] ppm	Average values[(b)] mg/m^3
Sulfur dioxide	0.30	--	0.15	--
Hydrogen sulfide	0.07	--	0.03	--
Hydrocarbons (as hexane)	100	--	50	--
Carbon monoxide	50	--	20	--
Hydrochloric acid	0.20	--	0.03	--
Chlorine	0.20	--	0.06	--
Nitrogen oxides(c)	0.30	--	0.10	--
Fluorides(c)	--	0.06	--	0.02
Lead compounds(e)	--	0.05	--	0.01
Particulates (20% SiO_2)	--	0.50	--	0.10
Particulates (other)	--	1.00	--	0.30

(a) 30-minute sample; once in 8 hours.
(b) 24-hour average (except 8 hours for CO and Pb).
(c) As NO_2.
(d) As F.
(e) As Pb.

APPENDIX F

ORGANISATION OF HYGIENE GROUPS



Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
I	00[illegible]	NAT	~~A~~ B C D E F	~~01~~ 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 ~~32~~ 33 ~~34~~ 35	L ~~M~~ S	~~1~~ 2 3	7.71	S	~~T~~

NAME ISTITUTO NAZIONALE MOTORE

National Engines Institute

ACRONYM:

See also

ADDRESS Largo Barsanti,
80.125 NAPOLI.

Tel 61.48.00

AFFIL CNR (1.006).

Title	PERSONNEL	Function
Prof.	M. Taddei	director
Prof.	C. Vocca	dep. director
Ing.	A. Polletta	AP work

AP aims and actions:

Research into methods for reducing exhaust emissions from vehicles; development of test methods.

Comments:

The sole organisation of this kind in Italy.

Examines all Italian patent applications in this field.

[illegible] stituto Nazionale Motore 7.71

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
I	04[illegible]	IND	~~A~~ B C ~~D~~ E ~~F~~	01 ~~02~~ 03 04 ~~05~~	11 12 13 14 15	21 22 23 ~~24~~ 25	31 ~~32~~ ~~33~~ 34 35	~~L~~ M S	1 ~~2~~ 3	3.7[illegible]	S	T

NAME ENTE NAZIONALE PER L'ENERGIA ELETTRICA

State Power Board

ACRONYM: ENEL

See also

ADDRESS Via G. B. Martini 3,
00198 ROMA.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Dr.	R. Gasparini	mgr, Chem. & Environm't Sect
Dr.	L. Bramati	
Dr.	P. Landini	*
Dr.	D. Merluzzi	
Sr.	Maranzana	

AP aims and actions:

Surveys of AP from thermal & nuclear power stations. Evaluation of flue gas cleaning processes.

Comments:

Has developed tall stacks policy.

* Staff at Laboratorio Centrale,
Via Nino Bixio 27,
291.. PIACENZA.
tel: 21267.
P/EP 20.

[illegible] .04 [illegible] 7.71

[illegible] [illegible] [illegible] [✓ A] [✓ B] C D E [✓ F] 01 [✓ 02] 03 04 05 11 12 13 14 [✓ 15] 21 [✓ 22] 23 24 25 [✓ 31] 32 [✓ 33] 34 35 L [✓ M] S 1 [✓ 2] 3 2.71 [✓ S]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME UNIONE PETROLIFERA
Petroleum Industry Association

ACRONYM: UP
See also

ADDRESS Via Buffalini [illegible],
00161 ROMA.

Tel 897.727

AFFIL All major oil [illegible] except ENI

Title	PERSONNEL	Function
Dott.	V. Cazzaniga	president
Dott.	M. Patricolo	general manager
Dott.	Heer	economics affairs dept. [illegible]
Sig.ra	M. Wenzel	economics and AP coordn.

AP aims and actions
Wkg. Gp. (Commissione per lo Studio dei Problemi d'Inquinamento) studies implications of industry's activities for pollution problems, and makes recommendations to board of UP. Comments on proposed regulations.
Study on monitoring techniques and equipment for SO_x & particulates to recommend standard for official use.
Reviewing fuel oil and flue gas desulphurisation process possibilities.

Comments
Vehicle emission matters mostly [illegible] to CUNA & ANFIA (1.040, [illegible].049).
ENI invited on to Wkg. Gp.

1.050 Unione Petrolifera (UP) 2.71

[illegible] [illegible] [illegible] [✓ A] B C D E F [✓ 01] [✓ 02] 03 04 05 11 12 13 14 [✓ 15] 21 22 23 24 25 [✓ 31] [✓ 32] 33 34 35 L M [✓ S] 1 [✓ 2] 3 2.71 [✓ S]
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ENTE NAZIONALE IDROCARBURI
National Petroleum Organisation

ACRONYM: ENI
See also

ADDRESS [illegible] ROMA.

Research at:
20097 SAN DONATO MILANESE.

Tel

AFFIL

Title	PERSONNEL	Function
Ing.	I. de Vita	coordinator for AP
Ing.	Marenetti	
Ing.	Ottaviani	
Ing.	G. Gi[illegible]mmi	Industrial development [illegible]

AP aims and actions
Have studied effects of fuel modifications on vehicle exhaust emissions.
Studies of combustion efficiency.
Cooperates with Fiat/Esso/Mobil on vehicle emission research agreement (1.065).
Have commissioned [illegible] (Istituto per lo Sviluppo Economico - Institute for Economic Development) to prepare study of the economics of AP damage.

Comments
Nationalised (State) body.

1.051 ENI - Ente Nazionale Idrocarburi 2.71

I 060 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9.70 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITA DI BOLOGNA, Istituto Chimico
Bologna University, Chemical Institute

ACRONYM:
See also

ADDRESS: Via Selmi 2,
40126 BOLOGNA.

Tel:
AFFIL:

Title	PERSONNEL	Function
Prof.	G. Semerano	director

AP aims and actions:

Studies of aerosols and fine particulates.

Comments:

I.060 U. di Bologna, Istituto Chimico 9.70

I 062 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 2.71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: UNIVERSITÀ DI FERRARA, Istituto di Igiene
Ferrara University, Institute of Hygiene

ACRONYM:
See also

ADDRESS: Corso Giovecca 173A,
FERRARA.

Tel:
AFFIL:

Title	PERSONNEL	Function
Dott.	B. Paccagnella	director

AP aims and actions:

General studies of AP, especially from industry: effects of F on vegetation. Correlation of school absences with pollutant levels and social status.

Comments:

I.062 U. di Ferrara, Istituto di Igiene 2.71

I	067	ACD	[✓ A] B C D E F	01 [✓ 02] 03 04 05	11 12 13 14 15	21 22 23 [✓ 24] 25	31 32 33 34 35	L M S	1 [✓ 2] 3
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME: UNIVERSITA DI MILANO, Istituto di Igiene
Milan University, Institute of Hygiene

ACRONYM

See also

ADDRESS: Via Sforza 35,
20100 MILANO.

Tel 54.19.37

AFFIL.

Title	PERSONNEL	Function
Prof.	A. Giovanardi	director

AP aims and actions:

Studies of ambient pollution (smoke, SO_2), especially from domestic heating.

Cross-correlation of methods with other Institutes (eg. reflectance/mass for smoke, with MRC London - GB.034).

Comments

I.067 U. di Milano, Istituto di Igiene

JAPAN

PHYSICAL AND DEMOGRAPHIC FEATURES*

Japan consists of four main islands--Hokkaido, Honshu, Shikoku and Kyushu--and other small islands. It extends about 1250 miles from the north end of Hokkaido to the south end of Kyushu; and its greatest width is less than 200 miles. Its area is 144,000 square miles, three-quarters of which is mountainous: 13.6 percent of the land is arable; 3.7 percent meadow, 61 percent forest. The remaining 21.7 percent comprises both built-up areas and wilderness areas.

Annual rainfall varies from about 40 inches in Hokkaido to about 100 inches in Kyushu. In the central Honshu area, in which the greatest concentration of population and industry exists, the annual rainfall is about 60 inches. In all areas of Japan, about 36 percent of the precipitation occurs in winter and spring; 64 percent in summer and autumn.

The minimum temperature in the northern cities is around 13 °F. The maximum temperature is about 98 °F for all Japan, and the average temperature varies from 45 °F in the north to 59 °F in the south, with the previously noted central Honshu area having an average of about 57 °F.

The population of Japan is approximately 100 million and has been increasing at about 1 percent per annum. The overall population density is 694 per square mile. On the basis of cultivated and urbanized land only, the population density is 4159 per square mile, the highest in the world. The population is presently about 70 percent urban and 30 percent rural, with a trend toward increasing the urban percentage.

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*Adapted from "General Features of Japan Related to Environmental Pollution Problems," Environmental Sanitation Bureau, Ministry of Health.

About 60 percent of the population lives in cities of 50,000 or more, and about 30 percent lives in 30 cities of over 300,000 population. Of these 30 cities, 26 are on the seacoast, and 16, over half of the 30 largest cities, are on the east coast of central Honshu. These 16 cities, in order of population, are: Tokyo, Osaka, Nagoya, Yokohama, Kobe, Kawasaki, Amagasaki, Sakai, Hamamatsu, Himeji, Shizuoka, Nishinomiya, Chiba, Wakayama, Yokosuka, and Toyonaka. Among them, these 16 cities comprise almost 25 percent of the population of Japan, with about equal numbers residing in the north-central complex centered in Tokyo and the south-central complex centered in Osaka. In general, these major population centers are also the major industrial centers.

Four other cities of over 300,000 are located on the Honshu coast, but outside the east central area. Other major coastal population centers of over 300,000 include five cities on the west coast of Kyushu (Fukuoka, Kagoshima, Kitakyushu, Kumamoto, and Nagasaki) and one (Matsuyama) on the west coast of Shikoku. The four cities of over 300,000 population not located on the seacoast are Gifu, Kanazawa, Kyoto, and Sapporo.

POLITICAL FEATURES RELATED TO AIR POLLUTION CONTROL

Japan is a constitutional monarchy, having an Emperor, and a Prime Minister who represents the majority party in the Diet, which is the bicameral legislature. There are a number of National Ministries, each headed by a Minister; the Ministers make up the Cabinet. The capital city is Tokyo.

Basic to its air pollution control activity is the National system of Planning Councils. The most pertinent ones are the National Economic Deliberation Council and the National Living Standards Improvement Council, which are administered by the Economic Planning Bureau of the Prime Minister's Office; and the National Energy Investigation Council, National Petroleum Deliberation Council, National Industrial Structure Deliberation Council, and National Industrial Land Regulation Deliberation Council, administered by the Ministry of International Trade and Industry.

JA-004

JA-008

The Prime Minister has organized the Central Advisory Council of Environmental Pollution, for central planning and setting ambient air quality standards. The Living Environment Council of the Ministry of Health and Welfare is concerned with air quality criteria, and the Transportation Technology Council of the Ministry of Transportation with auto exhaust control.

The country is divided into the Tokyo Metropolitan Government, Hokkaido, and 44 prefectures, within which are cities, towns and villages. Tokyo and six other cities of over 1,000,000 population (Kitakyushu, Kobe, Kyoto, Nagoya, Osaka and Yokohama) have been specially designated by National law to have greater municipal powers than the remainder of Japanese cities not so designated. Thus, in Osaka Prefecture, Osaka City operates many services that in other prefectures are operated at the prefectural level.

Prefectures each have an elected Governor, an elected Assembly, and a prefectural capital city in which are located the principal offices of the prefectural administrative agencies; one of these is usually a prefectural Department of Public Health. Cities have an elected Mayor and Municipal Assembly, and generally have a municipal Department of Public Health.

The National government, from time to time, has created special purpose regions, such as Industrial Development Regions and New Industrial City Regions. Regional groups of prefectures recognized for certain developments include the Chubu Region, comprising Aichi, Fukui, Gifu, Ishikawa. Nagano, Niigata, Shizuoaka, Toyama and Yamanashi Prefectures, and the Kinki Region, comprising Hyogo, Kyoto, Mie, Nara, Osaka, Shiga and Wakayama Prefectures. Bay area problems in air pollution control are considered on a regional basis in the areas of Tokyo Bay, Osaka Bay, and Ise Bay.

AIR POLLUTION FEATURES OF JAPAN

Air pollution is currently recognized to be a severe prefecture-wide problem in Tokyo, Osaka, Kanagawa and Hyogo Prefectures; to be a severe local problem in the cities of Yokkaichi, Omuta and Kitakyushu; and to be on the verge of becoming a severe problem in the city of Nagoya, and the area around Ichihara in Chiba Prefecture.

The prefectural governments of Tokyo, Okayama, Mie, Kanagawa, Hyogo and Chiba have submitted to the National Council on Environmental Pollution [illegible] Control of the Prime Minister's Office area air pollution control plans for their entire prefectures, or for the cities or areas noted above, and have received Council approval of these plans in conformity with the Council's Basic Policy issuances.

The Tokyo Metropolitan Area, essentially all of Osaka Prefecture and 48 other cities, towns and regions have been designated as "control areas" under the terms of Article 3-1 of the National Air Pollution Control Law of 1968. This means that because of present or potential future air pollution emissions, they must conform to National requirements.

The Japanese consider their air pollution problem as mainly associated with the sulfur content of oil, the carbon monoxide content of automobile exhaust, and the particulate matter and odor from a wide variety of industrial and fuel burning sources. Japan relies on oil for most of its heat and power. During the past decade, heavy and chemical industry has increased by a factor of six; light industry by a factor of three; passenger car and truck registration by a factor of fifteen.

HISTORY OF NATIONAL AIR POLLUTION CONTROL

1960 - National funds were made available to Nihon Koshu Eisei Kyokai for study of the air pollution problem. JA-175

1962 - The Science and Technology Bureau of the Prime Minister's Office first provided funds to the several Ministries for air pollution research. JA-003 Smoke was recognized as a national problem by the enactment of the Smoke, etc. Control Law, jointly administered by the Ministry of Health and Welfare (MHW) and the Ministry of International Trade and Industry (MITI). JA-017

1963 - A Commission was organized jointly by the Ministry of Health and Welfare and the Ministry of International Trade and Industry under the chairmanship of Dr. M. Kurokawa to investigate the air pollution problems of the Yokkaichi area. The recommendations of this Commission in 1964 were an important milestone for air pollution control in Japan.

1964 - MHW initiated investigation of the effect of air pollution on health in the Osaka area; continuous monitoring started for CO, NO_x, SO_x and other pollutants at three stations in Tokyo. Another commission jointly organized by MHW and MITI and also headed by Dr. M. Kurokawa initiated a study of the air pollution potential of the proposed new Mishima-Numaza industrial area. As a result of strong objections raised by the public during this study, development of the new area was cancelled.

The Interministerial (Vice-Minister's) Council on Environmental Pollution was organized, now known as the National Council on Environmental Pollution Control. JA-001

1965 - Special Committees on Environmental Pollution Control of the Upper and Lower Houses of the Diet were created.

The Environmental Pollution Council of MHW was established. JA-018

MHW started a National Air Sampling Network, which included 15 stations in 1971. APPX-B

The Environmental Pollution Abatement Corporation was authorized by law. It is jointly administered by MHW and MITI, and can use both appropriated funds and the National Pension Contingency Fund to make loans to and contracts with both public agencies and private companies for pollution control facilities; the construction of pollution control facilities for joint use by several private enterprises, the development of industrial parks for relocation of pollution producing industries; the planning of industrial complexes which will minimize pollution production; and the acquisition and forestation of land to create buffer zones between industrial and residenial areas. The National government provides funds for all the administrative costs of the corporation.

1966 - MITI was authorized to create within its Agency for Industrial Science and Technology, a Special Desulfurization Program, to finance the development of pilot and prototype process plants for flue gas and fuel oil desulfurization. JA-006

The Special Committee of the Diet on Environmental Pollution Control passed a special decision to require the Ministry of Transport (MT) to set an emission standard for carbon monoxide for 1967 model automobiles. A 3 percent carbon monoxide limit using a Japanese standard 4 mode cycle was adopted, and its application was extended later to [illegible] model cars. It is expected to be decreased to 2.5 percent for 1970 cars. JA-[illegible]

MHW initiated studies of the effects of air pollution on health in Chiba prefecture.

MHW, MITI, and MT initiated joint comprehensive preventive surveys for new industrial development projects. These involve a base-line survey of pollution and meteorology; the computation of pollution levels through use of a mathematical model; the use of models in wind tunnels and tracers in the field; and the verification of model studies by an air quality monitoring network.

1967 - The Basic National Law (No. 132) for Environmental Pollution Control was enacted. This enables adoption of national air quality standards; designation of specific areas in which environmental pollution control planning can be required; payment of damages resulting from implementation of the law; appointment of a National Council on Environmental Pollution Control; JA-001
and a National Advisory Council on Environmental Pollution Control. JA 002

An Air Pollution Training Program was started by the Institute of Public Health. JA 0[illegible]1

1968 - The present National Air Pollution Control Law (No. 97) was enacted, rescinding the 1962 Smoke, etc. Control Law. This specifically authorizes designation of areas where National air pollution prevention requirements must be met; adoption of emission limitation procedures; automobile exhaust control; and an improved alert procedure. Authority is given to MHW and MT for the automobile exhaust provisions of the law (previously to MT): and to MHW and MITI for its other provisions.

Cabinet Order No. 329, November 30, 1968, listed as Specified Noxious Substances 24 chemicals designated as injurious to human health. The gaseous exhaust from motor vehicles is also designated as injurious to human health, as carbon monoxide. Specific air quality standards are set for sulfur dioxide and emission factors for sulfur dioxide, which are more stringent for the more highly industrialized urban areas. APPX-C

Regulatory functions delegated to cities, instead of the Prefectural Governor, in Metropolitan Tokyo, and also in Yokohama, Sakai, Osaka, Omuta, Niigata, Nagoya, Kyoto, Kurashiki, Kobe, Kitakyushu, Kawasaki, Himeji and Amagasaki.

The same cabinet order lists 13 categories of boilers, furnaces and incinerators as "smoke emission facilities subject to regulation." Emission limits are set for these which vary with the type of service. APPX-C

1969 - The Cabinet on February 12, on the advice of the National Council on Environmental Pollution Control, promulgated stringent air quality standard for sulfur oxides based on recommendations of the Environmental Pollution Control Committee of the Council for Living Environment of MHW. This is the present standard:

1. (a) One-hour sampling periods in which the value is less than 0.2 ppm of sulfur dioxide should account for over 99 percent of the total hours of the year.

   (b) The days in which the daily average is less than 0.05 ppm should account for over 70 percent of the total days of the year.

(c) The hours in which the value stands at less than 0.1 ppm should account for over 88 percent of the total hours of the year.

2. The annual average value should be less than 0.05 ppm per hour.

3. The following three degrees of pollution (days on which emergency measures are required) should not exceed 3 percent of the total days of the year, nor should they last over three consecutive days.

   (a) The content of SO_2 remains at over 0.2 ppm for 3 consecutive hours.

   (b) The content remains at over 0.3 ppm for 2 consecutive hours.

   (c) The content remains at over 0.5 ppm for 1 hour.

   (d) The content averaged over 48 hours remains at over 0.15 ppm.

Under a further Ministerial order of July 29, 1969, the value of K in the emission standard for sulfur dioxide was changed to the much more stringent value of 5.26 for new installations in selected areas of Tokyo, Yokohama, Kawasaki, Osaka, Amagasaki, and Yokkaichi.

In 1969 an air quality standard for carbon monoxide was promulgated. According to current (1969) newspapers, the Ministry of Health and Welfare was working on establishment of Kogai Eisei Kenkyu Sho (National Research Institute of Public Nuisance Control and Hygiene), with functions in the coordination of research, studies on health effects, surveillance and methods of measurement, and planning and developments in the technology of pollution control. However, this is not to include research activities which are now being carried out by other Ministries, such as desulfurization technology development, exhaust gas control technology development, etc.

Ambient Air Quality Standards decided by the Cabinet in February 1970 were based on the policy of the Ministry of Transportation to catch up to U.S.A. standards by 19[illegible].

In December 1970 the basic National Law 132 was revised to change a controversial phrase in Article 9, Clause 2, "...with due consideration to harmony with the sound development of the economy," to read "promoting in a comprehensive countermeasures against environmental pollution, protection of the nation's health, and conservation of the environment."

In June 1971, Air Pollution Control Law 97 was further modified by Ministerial Ordinance, to extend the original eight sections for K values for sulfur dioxide in older plants to cover all of Japan, with values ranging from 11.7 to 26.3. It is indicated that these K values may be further decreased by new legislation, which may restrict automotive exhaust emissions of hydrocarbons, nitrogen oxides, and lead.

The new regulations are to be administered by the Director General of a new Environmental Protection Agency (Koukiocho) who was to become a Minister of State in July 1971. The Air Preservation Bureau of this agency is expected to work for the elimination of air pollution, noise, and odor nuisances, and set new limits as required on specific pollutants, such as automobile exhaust.

LOCAL AIR POLLUTION CONTROL

JA-042-145

In general, air pollution control is at the prefectural and municipal level in Japan, although, as previously noted, in some cases local authorities must abide by National regulations.

The first major air pollution control legislation in Japan was the enactment in 1949 of public nuisance control regulation by the Tokyo Metropolitan Government. In 1957 the Kanagawa Prefecture Air Pollution Control Committee was established and started air quality monitoring in the Yokohama-

Kawasaki area. These antedated the National Control efforts.

The first major air pollution monitoring system in the Osaka area was set up in 1962 jointly by Osaka Prefecture, Osaka City, and Sakai City. In 1963, Osaka City enacted an air pollution regulatory law. As of 1969, 26 prefectures, 25 cities and 19 towns or villages had air pollution control ordinances; and in 96 cities, 16 towns and 1 village there were air pollution control organizations of either the prefecture or the municipality.

At the prefectural or municipal level, air pollution control is generally the responsibility of the Prefectural or Municipal Public Health Department, with regulatory activities in its Public Nuisances Bureau, and monitoring and research activities in the Public Nuisances Section of its Prefectural or Municipal Institute of Public Health. "Public Nuisance" is the generic term used to describe air, water, and soil pollution, odors, noise and vibration.

The Prefectural or Municipal Institute of Public Health is the laboratory for a Public Health Department and may be variously called a Research Institute, a Hygienic Institute, a Hygienic Sciences Institute or a Hygienic Laboratory. In smaller prefectures or municipalities, the Institute may serve as the Public Health Department, and vice versa.

In those prefectures or municipalities where environmental pollution has become a major problem, other organization patterns have emerged, ranging from creation of an Environmental Pollution Control Administration, independent of the Public Health Department, which combines regulatory, monitoring and research functions, to the creation of a Public Nuisances Research Institute, either within or independent of the Public Health Department, to which only the monitoring and research functions are assigned. One feature of these Environmental Pollution Control Institutes, by whatever name they may be known, is usually a central display and control center for a telemetered air quality monitoring network. Such centers are now operational in 12 areas and scheduled in 9 more. As of December 1970, about 220 automatic monitoring stations were in operation, 150 of them connected to telemetry.

Most larger prefectures and cities have Comprehensive Planning Bureaus, some of which have identifiable air pollution specialists. In general, there is delegation of National and Prefectural authority to some of the larger municipalities. This results in some overlap in monitoring and planning between the prefecture and its larger cities.

Since National law requires prefectures and municipalities to organize a health center for every 100,000 population, some of these centers are used to house prefectural or municipal air pollution control, monitoring or research personnel. The clientele of these health centers form a basic population for epidemiological studies.

AIR QUALITY MONITORING

There are two air quality monitoring systems in Japan. The first is a National Air Sampling Network which measures sulfur dioxide, nitrogen dioxide, nitrogen oxide, carbon monoxide, ozone, hydrogen sulfide, hydrocarbons, suspended particulate matter, humidity, temperature and wind direction and velocity. There area also a number of prefectural and municipal air sampling networks which usually are limited to sulfur dioxide, particulate matter (dust fall), and wind direction and velocity.

AIR POLLUTION RESEARCH AND DEVELOPMENTS

Research is conducted in a group of governmental laboratories,
primarily those of the Agency for Industrial Science and Technology
(MITI); the National Institutes of Public Health and Hygienic Sciences JA-009-16
(MHW); the Ship and Meteorological Research Institutes (MT); the Experi- JA-021-2
ment Stations and Research Institutes of the Ministry of Agriculture JA-025-8
and Forestry; the National Institute of Industrial Health of the Ministry JA-032-7
of Labor; and the Building Research Institute of the Ministry of JA-038
Construction. In addition, research is done in Prefectural Institutes JA-039
of Public Health, Public Health Departments, and more particularly in JA-042-97

Prefectural Public Nuisance Research Institutes and Control Centers. [illegible] There is also a group of Prefectural Agricultural and Industrial Research Institutes involved in air pollution research. [illegible]

At the municipal level, there are City Institutes of Public Health and of Hygienic Sciences and City Public Health Departments, as well as [illegible] specialized municipal Public Nuisance Control Agencies and Centers. [illegible]

Among the quasi-public agencies, particular attention should be [illegible] called to the Japan Environmental Sanitation Center. JA-145 Finally, there are private research laboratories, perhaps the most important of which is the Central Research Institute of the Electric Power Industry, [illegible] and a large number of universities. JA-245-318

AIR POLLUTION ASSOCIATION

There is a professional air pollution association, Japan Society of Air Pollution; JA-159 and an industrial air pollution association, Japanese Air Pollution Control Association. JA-158 There is a group of associations concerned with pollution of all types, JA-161-4 and several concerned with occupational and urban health and hygiene. JA-165-77 There are medical, agricultural, and engineering societies. Finally, there is a variegated group of professional societies and trade associations in the areas of air pollution interest. JA-203-29

BIBLIOGRAPHIC RESOURCES

In addition to several organizations primarily concerned with scientific documentation, JA-319-24 there are large numbers of proprietary publishers of periodicals and books related to air pollution. JA-325-72 Also, almost all the professional societies and trade associations publish technical periodicals. JA-158-229

JAPAN

CORRECTIONS FOR CARDS

CARD		SECTION	CHANGE
JA-001	GOV	Address	Add Tel. 03-581-5271
JA-002	GOV	Address	Add Tel. 03-581-5271
JA-003	GOV	Name	Change Bureau to Agency
		Address	Add Tel. 03-581-5271
		Personnel	Change Mitsugu Ishizuka to H. Okobo
JA-004	GOV	Name	Change Bureau to Agency
		Address	Add Tel. 03-581-0261
JA-005	GOV	Address	Add Tel. 03-821-3751
JA-006	GOV	Address	Add Tel. 03-541-4721
JA-008	GOV	Address	Change 501-1511 to 03-501-1511
JA-009	GOV	Address	Add Tel. 03-501-1511
JA-010	GOV	Function	Change Head to Chief (four times)
		AP aims and actions	Change NO_2CO_3 to Na_2CO_3
		Additional Personnel	Change Hisav to Hisao
		Pollution Control (Kogai)	Change Soyokanda to Sotokanda
JA-011	GOV	Address	Add Tel. 03-399-1181
JA-012	GOV	Address	Add Tel. 03-581-0421 and 03-581-0441
JA-013	GOV	Address	Add Tel. 03-961-3201
		Personnel	Change T. Takakuva to T. Takakura
JA-014	GOV	Address	Add Tel. 011-861-0151
JA-015	GOV	Address	Add Tel. 0727-51-8351
JA-017	GOV	Address	Add Tel. 03-503-1771
		Personnel	Change K. Muto to J. Urata Change Michio Hashimoto to N. Yamamoto
		Function	Change Head to Director
JA-018	GOV	Address	Add Tel. 03-503-1711
JA-019	GOV	Address	Add Tel. 03-503-1711
		A,B,C,D	Change Member to Members
		D	Change Old Man to Adult

CARD		SECTION	CHANGE
JA-020	GOV	Address	Add Tel. 03-5[illegible]
JA-021	GOV	Address	Add Tel. 03-441-[illegible]
JA-022	GOV	Address	Change [illegible] to Kamiyoga Add Tel. 03-[illegible]
		Affil.	Change (Kosei-sho) to (Kosei-sho
JA-023	GOV	Address	Add Tel. 03-542-2511
JA-026	GOV	Name	Change [illegible] to [illegible]
		Function	Change Head to Chief
JA-025	GOV	Address	Change [illegible] to Kasumigaseki Add Tel. 03-586-3111
JA-027	GOV	Address	Add Tel. [illegible]
JA-028	GOV	Address	Add Tel. 03-33[illegible]
JA-029	GOV	Address	Add Tel. [illegible]-4821
JA-030	GOV	Address	Add Tel. [illegible]-941-9341
JA-031	GOV	Address	Add Tel. 03-[illegible]02-8111
JA-032	GOV	Address	Add Tel. 03-7[illegible]-5171
JA-033	GOV	Address	Add Tel. 0[illegible]-811-4271
JA-035	GOV	Address	Add Tel. 03-914-0161
JA-037	GOV	Address	Add Tel. 03-[illegible]11-0121
JA-038	GOV	Address	Add Tel. 044-41-2185
JA-039	GOV	Address	Add Tel. 03-361-1451
JA-040	GOV	Address	Add Tel. 03-941-3996 and 03-941-1553
JA-041	GOV	Address	Add Tel. 029[illegible]8-2-2211
JA-043	GOV	Address	Add Tel. 0188-32-6358
		Affil.	Add Akita Prefectural Office
JA-044	GOV	Address	Add Tel. 0177-34-2711
JA-045	GOV	Address	Add Tel. 0472-41-7455
JA-047	GOV	Address	Add Tel. 0776-24-5165
JA-048	GOV	Address	Add Tel. 092-77-2843-4
		Personnel	Delete Total 42
JA-049	GOV	Affil.	Add Fusushima Prefectural Office
JA-050	GOV	Address	Add Tel. 0582-46-1101
JA-051	GOV	Affil.	Delete Health Department and add Office
JA-052	GOV	Address	Add Tel. 0822-51-4371
JA-054	GOV	Address	Add Tel. 078-51-6581

CARD	SECTION	CHANGE
JA-055 GOV	Address	Add Tel. 0292-24-3367
	Affil.	Add Itara Prefectural Office
JA-056 GOV	Address	Add Tel. 0762-47-0077
JA-057 GOV	Address	Add Tel. 0196-23-2236
	Affil.	Add Iwate Prefectural Office
JA-058 GOV	Address	Add Tel. 0878-31-1531
JA-059 GOV	Address	Add Tel. 0992-22-9334
JA-060 GOV	Affil.	Delete Japan Society of Air Pollution and Add Kanagawa Prefectural Office
JA-064 GOV	Affil.	Add Mie Prefectural Office
	AP aims and actions	Change Gaschiomatic to Gaschromatic Delete Yobleaichi
JA-067 GOV	Affil.	Add Nara Prefectural Office
JA-069 GOV	Affil.	Add Nagano Prefectural Office
JA-073 GOV	Affil.	Add Osaka Prefectural Government
JA-074 GOV	AP aims and actions	Add Air Pollution in Saga
JA-081 GOV	Affil.	Add Tokyo Metropolitan Government
JA-083 GOV	Address	Add Tel. 0764-41-4991
JA-086 GOV	Affil.	Add Yamaguchi Prefectural Office
	Title	Delete Total
	Personnel	Delete 30
JA-087 GOV	Affil.	Delete Japanese Society of Public Health
	Personnel	Delete Total 28
JA-088 GOV	Affil.	Delete Public Nuisance Section
	Function	Delete Manager. Add Chief, Public Nuisance Dept.
JA-089 GOV	Address	Add 5-1-2 Cibacho, Chibaschi
	Affil.	Add Chiba Prefectural Office
JA-091 GOV	Affil.	Add Kanagawa Prefectural Office
	Function	Delete Manager. Add Chief, Public Health Dept.
JA-093 GOV	Affil.	Add Niigata Prefectural Office
JA-095 GOV	Function	Delete Manager. Add Chief, Public Health Dept.
JA-096 GOV	Name	Change Saitama-Kon to Saitama-Ken
	Affil.	Delete Environmental Health Section

CARD	SECTION	CHANGE
JA-099 GOV	Affil.	Add Hyogo Prefectural Office
JA-100 GOV	Name	Change entry to [illegible] Prefectural [illegible] Prevention Center, [illegible] Kobe
	Affil.	Change entry to [illegible] Prefectural Office
JA-102 GOV	Affil.	Add Osaka Prefectural Office
JA-103 GOV	Address	Add Tel. 03-214-7411
JA-104 GOV	Affil.	Add Chiba Prefectural Office
JA-105 GOV	Affil.	Change [illegible] to Tokushima
JA-106 GOV	Affil.	Add Kanagawa Prefectural Office
JA-107 GOV	Affil.	Add Ikayama Prefectural Office
JA-109 GOV	Address	Change [illegible] to [illegible]
JA-110 GOV	Name	Change [illegible] to [illegible]
JA-111 GOV	Affil.	Delete Office and [illegible] Government
JA-112 GOV	Affil.	Delete Office [illegible] Government
JA-113 GOV	Address	Add Tel. 03-702-[illegible]
JA-116 GOV	Address	Change [illegible] to [illegible] Add Tel. 044-[illegible]
	Personnel	Delete [illegible] Terase and add Jun [illegible]
JA-118 GOV	Affil.	Add Kobe City Office
JA-119 GOV	Affil.	Add Kyoto City Office
JA-121 GOV	Affil.	Add Nagoya City Office
	Title	Delete all titles
	Title/Personnel	Delete Total 52
JA-122 GOV	Affil.	Delete Department of Environmental Health, and add Osaka City Office
JA-123 GOV	Name	Delete Sentron and add Senter
	Affil.	Add Otaru City Office
	Function	Delete Sanitary Inspector (twice)
JA-124 GOV	Personnel	Delete Total 36 Change Sasak to Sasaki
	Function	Delete Air Pollution (2)
JA-125 GOV	AP aims and actions	Delete (unique of Sakai City). Add in Sakai City.
JA-128 GOV	Affil.	Add Gifu City Office
JA-129 GOV	Address	Delete Hokkaida and add Hokkaido
	Affil.	Add Hakodate City Office

CARD		SECTION	CHANGE
JA-130	GOV	Affil.	Delete entry and add Kawasaki City Office
JA-131	GOV	Affil.	Delete entry and add Kobe City Office
JA-135	GOV	Affil.	Delete Public Nuisance Unit
JA-136	GOV	Affil.	Add Oita City Office
JA-137	GOV	Affil.	Delete all of entry except Osaka City Office
JA-139	GOV	Affil.	Add Osaka City Office
		Title	Change Ph.D. to Dr.
		Function	Delete entry and add Director
JA-141	GOV	Affil.	Delete General Affairs Bureau and add Yokohama City Office
JA-142	GOV	Affil.	Add Kyoto City Office
JA-143	GOV	Affil.	Change (On'ya-sho) to (Unyu-sho)
JA-144	GOV	Affil.	Change (Un'ya-sho) to (Unyu-sho)
JA-147	NAT	Personnel	Change Banbei to Bunbei
JA-146	GOV	Name	Change Chiha to Chiba
		Address	Delete Tojama-ken and add Toyama-ken
		Affil.	Delete (Onjur-sho) and add (Unyu-sho)
JA-148	NAT	Address	Delete Tel. entry and add 03-581-6451
JA-150	GOV	Address	Add Tel. 03-502-0791-3
		Affil.	Entry should be under Comments
JA-151	NAT	Affil.	Delete entry
JA-153	NAT	Name	Change Kagyo to Kogyo
		Affil.	Delete Supported by
JA-152	NAT	Name	Change Nilton to Niwton
		Address	Delete Kiku and add Nikaku
JA-155	NAT	Name	Delete Kenkyn and add Nenkyu
JA-156	NAT	Affil.	Delete: Membership:, (above) and 30 Private Companies working on odor control.
		AP aims and actions	Change sensary to sensory Change sourses to sources Delete rendering

CARD		SECTION	CHANGE
JA-158	NAT	Address	Change ote-[illegible] to Ote-machi
		Affil.	Delete entry
JA-174	ASN	Address	Add Tel. 03-81[illegible]-[illegible]111
JA-193	ASN	Name	Change Enjinlaingo to Enjinlation
		Title	Delete both entries
		Function	Change entries to President and General Secretary, respectively
JA-207	ASN	Personnel	Delete entry
JA-208	ASN	Name	Change Kagaaki to Kagaku
JA-209	ASN	Address	Change Kubu Senyyo to Kubu Senryo Add Tel. 03-912-2111
		Affil.	Delete entry
		Function	Delete all of entry except Chairman
JA-214	ASN	Address	Add Tel. 03-[illegible]-4939
JA-231	IND	Entire card	Delete
JA-232	IND	Address	Add Tel. 03-480-2111
		Personnel	Add Y. Ishihara
		Function	Add Supervisor, Fuel Chemistry Analytical Chemistry
JA-233	IND	Address	Add Tel. 03-201-6601
		Function	Delete entry and add Chairman
JA-234	IND	Affil.	Delete In pilot. . .gas Delete Heavy. . .K.K.)
JA-235	IND	AP aims and actions	Delete all entries after address
JA-236	IND	Affil.	Delete entry
JA-237	IND	Affil.	Delete entry
		AP aims and actions	Change (Kiyoura) to (Kiyoura-TIT Process)
JA-238	IND	Affil.	Delete entry
JA-246	ACD	Affil.	Add Ministry of Education
JA-247	ACD	Name	Change Rigogakuba to Rikogakugu
JA-248	ACD	Affil.	Delete entry
		Function	Add (Tsunoda)
JA-249	ACD	Affil.	Add Gifu Prefectural Office
JA-250	ACD	Affil.	Delete entry
JA-251	ACD	Affil.	Add Ministry of Education

CARD	SECTION	CHANGE
JA-252 ACD	Address	Add Tel. 03-51-1111
	Affil.	Delete entry and add Ministry of Education
JA-253 ACD	Affil.	Delete entry and add Ministry of Education
JA-254 ACD	Affil.	Add Ministry of Education
JA-255 ACD	Affil.	Delete entry and add Ministry of Education
JA-256 ACD	Affil.	Add Ministry of Education
JA-257 ACD	Affil.	Add Ministry of Education
JA-258 ACD	Affil.	Add Ministry of Education
JA-259 ACD	Affil.	Add Ministry of Education
JA-260 ACD	Personnel	Change Shaji to Shoji
JA-262 ACD	Affil.	Delete entry
JA-263 ACD	Name	Change Keio Gijuku Daigaku Igahubu to Kita-zato Memorial Medical Library
	Affil.	Change Kita safo to Kika-zato
JA-264 ACD	Affil.	Delete entry
JA-265 ACD	Name	Change Rikogakubu to Rikagakubu
JA-270 ACD	Affil.	Add Ministry of Education
JA-271 ACD	Address	Add Tel. 075-771-8111
	Affil.	Delete entry and add Ministry of Education
JA-272 ACD	Affil.	Delete entry and add Ministry of Education
JA-274 ACD	Affil.	Delete entry and add Ministry of Education
JA-273 ACD	Address	Add Tel. 075-771-8111
	Affil.	Delete entry and add Ministry of Education
JA-276 ACD	Affil.	Add Ministry of Education
JA-277 ACD	Affil.	Delete entry and add Ministry of Education
JA-278 ACD	Affil.	Delete entry and add Mie Prefectural Office
JA-279 ACD	Affil.	Add Ministry of Education
JA-280 ACD	Affil.	Add Ministry of Education
	Personnel	Change Kuzuo to Kazuo
JA-281 ACD	Affil.	Add Ministry of Education
JA-282 ACD	Affil.	Add Ministry of Education
	Function	Delete entries
JA-283 ACD	Affil.	Add Ministry of Education
JA-284 ACD	Affil.	Delete entry and add Ministry of Education
JA-285 ACD	Affil.	Delete entry and add Ministry of Education
JA-286 ACD	Affil.	Delete entry

CARD		SECTION	CHANGE
JA-289	ACD	Affil.	Add Ministry of Education
JA-290	ACD	Affil.	Delete Government and add Office
JA-291	ACD	Affil.	Add Osaka [illegible] Office
JA-292	ACD	Affil.	Add Osaka City Office
JA-293	ACD	Affil.	Delete [illegible] and add Osaka City Office
JA-294	ACD	Affil.	Add Ministry of Education
JA-295	ACD	Affil.	Add Osaka Prefectural Government
JA-29[illegible]	ACD	Affil.	Add [illegible] Prefectural Office
JA-298	ACD	Affil.	Delete entry
JA-299	ACD	Affil.	Add Ministry of Education
JA-300	ACD	Affil.	Delete entry and add Ministry of Education
JA-302	ACD	Affil.	Delete entry and add Ministry of Education
JA-303	ACD	Affil.	Delete entry and add Ministry of Education
JA-304		Address	Add Tel. 03-726-1111
		Affil.	Add Ministry of Education
		AP aims and actions (Personnel)	Add N. [illegible] (first)
		Kiyoura Lab	Delete T. [illegible] and S. Iguchi Change Mezuzawa to Mizuzawa
JA-305	ACD	Affil.	Add Ministry of Education
JA-306	ACD	Affil.	Add Tokyo Metropolitan Government
JA-307	ACD	Address	Add Tel. 03-8[illegible]-1111
		Affil.	Change entry to Ministry of Education
		AP aims and actions	Delete Faculty of Education
JA-308	ACD	Address	Add Tel. 03-81[illegible]-1111
		Affil.	Add Ministry of Education
JA-309	ACD	Affil.	Add Ministry of Education
JA-310	ACD	Affil.	Add Ministry of Education
JA-312	ACD	Affil.	Add Ministry of Education
JA-314	ACD	Name	Change Iamaguchi to Yamaguchi
JA-315	ACD	Affil.	Add Ministry of Education
JA-316	ACD	Affil.	Add Ministry of Education
JA-317	ACD	Affil.	Add Yokohama City Office
JA-318	ACD	Affil.	Add Ministry of Education
JA-319	INF	Entire card	Delete
JA-320	INF	Entire card	Delete

CARD	SECTION	CHANGE
JA-321 INF	Address	Add Tel. 03-581-2361
JA-123 INF	Entire card	Delete

TA 001 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 M S 1 2 3 5/71 S T
No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME
Environmental Agency
Kankyo-cho

ACRONYM: EA
See also

ADDRESS
4-18 Sendagaya
Sibuya-ku, Tokyo

Tel 404-[illegible], 403-9941
Affil

Title	PERSONNEL	Function
Dir. Gen.	S. Yamanaka	Minister of State
	Y. Umemoto	Vice-Minister
Chief Sec.	K. Kido	Director General's Office
Chief	M. Funago	Planning & Adjust. Bureau
Chief	H. Shibiki	Envir. Protection Bureau
Chief	Dr. S. Yamagata	Air Preservation Bureau
Chief	M. Okayasu	Water Preservation Bureau

AP aims and actions:

Comments

To consist of 19 sections, run by four bureaus - the planning and adjustment, environmental protection, air preservation, and water preservation - and the director general's office.

The air preservation bureau is expected to work for elimination of air pollution, noise, odor and other sources of nuisance to the public.

It also plans to set a limit to the permissable amount of automobile exhaust.

[illegible] S T
Status Date

NAME
Toyama Prefectural Public Hazards Center
Toyama-Ken Kogai Center

ACRONYM
See also

ADDRESS
1-2 Ote Machi, Toyama-shi,
Toyama-ken.

Tel
AFFIL
Toyama Prefectural Office.

Title	PERSONNEL	Function
	[illegible]. Kawasaki	Director
	Y. Sakagami	Chief

AP aims and actions

Comments

Monitoring and analysis of atmospheric pollutants.

Publication of data of monitored pollutants.

JA	158A	SOC	[✓ A] B C [✓ D] E F	[✓ 01] 02 [✓ 03] 04 05	[✓ 11] [✓ 12] 13 14 15	21 22 [✓ 23] 24 25	31 [✓ 32] 33 [✓ 34] [✓ 35]	L [✓ M] S	1 2 3	7/7/	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Amagasaki Junion Chamber of Commerce

ACRONYM: Amagasaki JC

See also

ADDRESS:
96 Showa Dori 3-chome
Amagsaki City, JAPAN

Tel.: 06-411-2251

AFFIL: J C JAPAN

Title	PERSONNEL	Function
Vice-Pres.	K. Ishihara	Chairman
	O. Noma	
	N. Matsuyama	
Consultants	Dr. H. Naito and Prof. R. Kiyoura	

AP aims and actions:

The Social Development Group (SHAKAI KAIHATSU GROUP) of the Amagasaki Junion Chamber of Commerce is working towards the return of blue skies to Amagasaki, with the advice of a Medical Doctor and a Professor in Env: Engineering.

Comments:

KOREA

The Republic of Korea is primarily an agricultural country of 30 million inhabitants. Seoul, the capital city, has a population of 5 million and is growing rapidly, at about 12 percent per year. The city is not heavily industrialized, but it is located in a mountain valley and is subject to prolonged atmospheric inversions. Air pollution can be severe. The chief pollution sources are auto exhausts and the combustion gases from soft coal briquettes used for domestic heating. These briquettes present a real problem since they frequently create an atmosphere in the home which is above desirable levels for sulfur dioxide and carbon monoxide. The same conditions apply in the inland textile center of Taegu, with a population of 0.8 million. The port city of Pusan, with a population of 1.3 million, has a more serious problem with industrial smoke, as well as the fumes from briquettes and auto traffic.

The Government Ministry of Service and Technology (MOST) is concerned ROK-01
with the control of auto exhausts, and the Ministry of Health and Social ROK-02
Affairs has responsibility for the public nuisance aspects of pollution control. Studies of air pollution in Seoul have been conducted by the
National Institute of Health and by the Seoul Metropolitan Hygiene Labor- ROK-03
atory, which is working closely with the Mayor's Office.

Academic research on pollution control technology is sponsored by
MOST and by Seoul City at the Korean Institute of Science and Technology. ROK-05
Programs for training in environmental sciences and related problems of
urbanization have been established at Seoul National University and at ROK-06
the Yonsei University Institute of Public Health. Research on the effects ROK-07
of air pollution on human and animal metabolism is also under way at Ewha ROK-08
Women's University.

As yet no one governmental or civic body in South Korea is primarily concerned with air pollution control. A leading newspaper in Seoul, Donga

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[illegible] sponsored a popular 2-day industry-government-academic conference on the subject in [illegible]. The air pollution measurements now made by the Central Meteorological Office and other agencies may be expanded into a nationwide network for air and water quality as part of the third 5-year plan for 1972-76. A program to promote the exchange of technology between the United States and Korea, including urban planning and air pollution control, is being conducted by the Smithsonian Institution and US-AID Science Advisor in Seoul.

ROK 001 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Ministry of Science and Technology
MOST

ACRONYM:
See also

ADDRESS
Government Building
Seoul

Tel 70-4201
AFFIL

Title	PERSONNEL	Function
Dr.	Choi, Hyong-Sup	Minister
Dr.	Kim, Sun-Kil	Director, Policy and Development

AP aims and actions

Abatement and control of auto exhausts

Epidemiological studies, effects of urban air pollution on city planning

Comments:

ROK 002 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Ministry of Health and Social Affairs
MHSA

ACRONYM:
See also

ADDRESS
Government Building
Seoul, Korea

Tel
AFFIL

Title	PERSONNEL	Function
Dr.	Yi, Kyong-Ho	Minister
Dr.	Jong, Kwan-Hong	Vice Minister

AP aims and actions

Third 5-year plan (1972-76) provides budget for installation of automatic instrumentation and surveys to measure public nuisance effects, split about 60/40 between air and water pollution studies

Comments:

ROK 003 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/7[illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME National Institute of Health

ACRONYM

See also

ADDRESS

Seoul

Tel 38-3602

AFFIL

MOH

Title	PERSONNEL	Function
Dr.	Chung, H[illegible]-Ro	Director, Dept. of Hygiene

AP aims and actions

Studies of air pollution in Seoul City

Research on pollution in industrial areas

Comments

Cooperative research with
Seoul National University

ROK 00[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] Pollution [illegible]

ACRONYM

See also

ADDRESS

Tel [illegible]

AFFIL

[illegible] Office, Seoul City

Title	PERSONNEL	Function
	Kim, [illegible]	Chief of AP Dept.

AP aims and actions

[illegible] air [illegible] in urban planning

Comments

ROK 005 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Korea Institute of Science and Technology
KIST

ACRONYM
See also

ADDRESS
P. O. Box 131
Cheong Ryang
Seoul, Korea
Tel 93-6187
AFFIL
MOST

Title	PERSONNEL	Function
Dr.	Hahn, Sang-Joon	President

AP aims and actions:

Studies on effects of urbanization

Contract research for municipal and federal governments on technology applicable to controls in industry

Comments:

ROK 00[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Seoul National University

ACRONYM
See also

ADDRESS
Seoul, Korea
Tel -0317; 72-12[illegible]
AFFIL Public

Title	PERSONNEL	Function
Dr.	Kwon, E. Hyock	Dean, Medicine
Dr.	Ko, Eng-Bing	Acting Dean, Public Health
Dr.	Cha, Chul-Hwan	Professor

AP aims and actions:

Training in environmental sciences

Effects of AP on human health in large and small cities (Seoul, Pusan, Daegu, Suwon).

Comments:

ROK 007 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S 1
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Institute of Environmental Pollution Research

ACRONYM

See also

ADDRESS

Yonsei University
Sodaemoon-Ku, Seoul

Tel [illegible]-0141

AFFIL

Private

Title	PERSONNEL	Function
Dr.	Kwon, Sook-Pyo	Director

AP aims and actions

Effects of urban air pollution, auto exhausts, treatment of factory waste gases, surveys in Seoul City.

Comments

Contribution and leadership of program in Yonsei Dept. of Preventive Medicine and Institute of Public Health

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ROK 008 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 12/71 S 1
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] Industrial Research Institute

ACRONYM

See also

ADDRESS

Ewha Woman's University
Daehyun-dong, Seoul

Tel [illegible]-0160

AFFIL

Private

Title	PERSONNEL	Function
Dr.	Kim, Dong-Jun	Chairman (Pres., Physiological Soc.)

AP aims and actions

Effects of air pollution environment and on metabolism, human and animal.

Comments

[illegible] 2 3 12/71 [illegible]

Date

[illegible]

MEXICO

The major industrial center of Mexico lies in the high-level plateau known as the Valley of Mexico, at an elevation of about 7500 feet. This area includes nearly half of the industry in the country, in the Federal District, Mexico City, and portions of neighboring states. Automobile exhausts, however, are considered the principal source of air pollution. Ore dusts and sulfur fumes are more significant in the steel center of Monterrey.

The first monitoring stations to measure sulfur dioxide, dusts, nitrogen dioxide, and total oxidants were established in Mexico City in 1967, with the cooperation of government experts from Canada and the United States. The measurement of total oxidants was of special interest in preparation for the Olympic Games of 1968, at the high altitude of the Valley of Mexico. These operations were carried out by the federal Division of Industrial Hygiene, under the Ministry of Health and Welfare. This group was reorganized in 1970 as the Division of Environmental Hygiene, MEX-01 in the same ministry. A new "Federal Law for the Prevention and Control of Contamination of the Environment" was adopted in March 1971. Relationships between this Ministry and others are coordinated at the inter-ministerial level by Dr. Eduardo Acheverria, Director of the Technical Council for the Improvement of the Environment (Consejo Tecnico para Majoromiente del Ambiente).

The Department of Health and Welfare is appointing regional engineers to work in environmental health in the states in Mexico adjacent to the United States, and local action groups are cooperating in the study of MEX-02 pollution problems in the border area. It also sponsors academic programs MEX-03 for the training of new personnel at the School of Public Health and at MEX-05 the National Polytechnic Institute. Conferences and educational programs MEX-06 for increased public awareness are conducted regularly by the Mexican Association against the Contamination of Water and Air, in cooperation with MEX-04 the National University in Mexico City (Universidad Nacional Autónoma de México).

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MEX [illegible] A B C D E F [illegible]
Country No. Type Functions [illegible]

NAME Division of Industrial [illegible]

Department of Health [illegible]

ACRONYM

ADDRESS
Carpio [illegible], 1er. Piso
Mexico 17, D.F.

Tel

AFFIL

Secretaria de Salubridad
y Asistencia

Title	PERSONNEL	Function
Dr.	Enrique [illegible] Mayo[illegible]	[illegible]
Dr.	Eduardo [illegible]	[illegible]

AP aims and actions

Operate monitoring network in Mexico City.

[illegible] for federal enforcement actions, programs, policy and procedures.

Comments

[illegible] Asistencia.

MEX [illegible] A B C D E F [illegible] M 2 [illegible] 2 3
Country No. Type Functions Sources Phone Contacts Manuals Size Status Date

NAME [illegible]ion and Sanitation [illegible]

[illegible] Construida [illegible]

ACRONYM

ADDRESS
[illegible]
Mexico [illegible]

Tel

AFFIL

Secretaria de [illegible]
& Asistencia

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible] for Environ- [illegible] Programs [illegible]

AP aims and actions

Comments

Program for air control [illegible] quality [illegible] in the border [illegible] Coahuila, Chihuahua, Sonora and Baja California.

MEX 003 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5 T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Regional Social Action Society, Main Office (Monterrey)
Accion Social Regiomontana, A.C. Oficina Matriz

ACRONYM
See also

ADDRESS
Edificio Vidriera, APDO
Postal 2034
Monterrey, N.L., Mexico
Tel
AFFIL

Title	PERSONNEL	Function
Lic.	Jorge Hernandez Osuna	

AP aims and actions

Regional air pollution control actions in Monterrey and state of Nuevo Leon

Works with International Good Neighbor Council in Mexican-U.S. border area

Comments

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5 T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Mexican Association Against the Contamination of Air and Water
Asociacion Mexicana contra la Contaminacion del Agua y del Aire, A.C.

ACRONYM
See also

ADDRESS
c/o University of Mexico
Ciudad Universitaria
Mexico 20, D.F.
Tel [illegible]
AFFIL
I.U.A.P.P.A.

Title	PERSONNEL	Function
Dr.	Humberto Bravo A.	President; Member, Technical Council for Improvement of the Environment

AP aims and actions

Conducts conferences, educational activities, ecological expositions

Coordinated with academic research at the University Department of Public Health

Comments

MEX 005 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME School of Public Health

Escuela de Salud Publica

ACRONYM

Spr

ADDRESS
Corpi 470, 1° Piso
Mexico 17, D.F.

Tel

AFFIL
Sec. de Sal. y Asist.

Title PERSONNEL Function

Dr. Alvaro [illegible]
Chief

AP aims and actions

Comments

Courses in all aspects of public health

MEX 006 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S I N I

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME National Polytechnic Institute

Instituto Politecnico Nacional

ACRONYM

Spr

ADDRESS
Unidad Profesional Zacatenco
Mexico 14, D.F.

Tel

AFFIL
Secretaria de Salubridad y Asistencia

Title PERSONNEL Function

AP aims and actions

Comments

Training of personnel

NETHERLANDS

GENERAL AIR POLLUTION BACKGROUND

Geography

Although a small country, the Netherlands is densely populated. Besides the large towns of Amsterdam, Rotterdam, and The Hague, there are many smaller urban areas. The area of the Rhine estuary (Rijnmond) is the main center of industrial growth, now extending southwards to the Scheldt. It includes refineries and chemical plants, as well as the extensive Europoort facilities. Between Europoort and The Hague are numerous glasshouses, with a high winter fuel consumption. The coal industry in the southeast Netherlands is now declining; massive resources of natural gas have revolutionized the supply and use of energy in the country, with accompanying increases in pollution.

Political Features

Concern about environmental pollution is very active in the Netherlands. All political parties advocate pollution control, and the Government shows a clear determination to deal with the problems involved. Water pollution presents greater problems than air pollution in all sectors. This emphasis can be expected to continue in a country where water supplies and water control are so important to national well-being.

In air quality conservation attention is largely directed against industrial smoke and smells, especially in the extensively industrialized areas along the Nieuwe Waterweg between Rotterdam and Eurpoort (the Rijnmond area). The automatic sulfur dioxide survey in this area is used as an indicator for incipient pollution episodes. It can be expected that a similar system will be established for the whole of the Netherlands. Already, the extensive greenhouse area in Westland (south of The Hague) attracts attention for its very high emissions of wintertime heat and sulfur dioxide.

In the Zuid Holland province, there is some concern over smog episodes, which are identified with interactions of specific industrial emissions. Other industrial emissions being studied are fluorides from aluminum smelting and the effects of ethylene on sugar beets. Emissions from vehicles are in general believed to present less of a threat, but Rotterdam's Commission is taking an interest in carbon monoxide in the Maas tunnels and other places where traffic is congested. Some concern is shown also about the hygiene significance of lead compounds emitted by motor vehicles.

Citizen and student conservation societies are very active in the Netherlands. Both in the Amsterdam and the Rotterdam areas there are groups for combatting air pollution; the Amsterdam group succeeded in achieving the refusal of a license for a projected [illegible] plant. The new Air Pollution Law may well increase such pressures.

Within a basic policy that the polluter should pay for the control of pollution, air pollution control is generally regarded as a cooperative exercise between the legislature and industry. The economic viability of an enterprise is respected by the authorities on the understanding that realistic efforts will be made to achieve a reduction in pollutant emissions. Prosecution has usually been unnecessary.

Present Controls

The Hinderwet (Nuisance Law, 1875, with subsequent revisions) was until recently the only legislation affecting air pollution; its essential requirements are summarized in Appendix A. It requires that certain specified industrialized installations, liable to cause hazards or nuisance to their surroundings, must be approved by the local authorities. Each new industrial plant receives a list of specific requirements which it must meet. These conditions may forbid certain practices, stipulate design features such as minimum stack heights, and require the provision of waste gas cleaning equipment. In addition, they may restrict certain processes to specific areas in the locality. If the measures prescribed in the license prove inadequate, the municipal authority may stipulate additional measures--with the sole limitation that they must not endanger the economic viability of the enterprise.

A new Air Pollution Law (Wet op de Luchtverontreiniging) is now
being enacted in the Parliament. This framework law will make it possible
to introduce a new system for granting industrial operating licenses and
to control emissions from other sources, such as domestic heating or
refuse disposal. The new law also contains proposals for a national air NL.016
pollution monitoring system, probably incorporating those of the Rijnmond NL.013
Authority, of Staatsmijnen, and of the Nordzeekanaalgebied and Zuid NL.014-15
Holland Commissions. This system would be coordinated by RIV. NL.006

Although there are at present no national (or local) ambient air quality standards, the new law proposes that these should be developed and introduced. Meanwhile, each local authority concerned with the problem uses its own concept of acceptable levels in calculating the permitted emission of pollutants when granting operating licenses.

Administration

The responsibility for licensing and inspecting installations
covered by the Hinderwet rests with the individual municipal authorities,
where the department concerned is the Office of Buildings and Housing
Control, reporting ultimately to the Municipal Council. Each authority
formulates the conditions required for a new license, but it can seek
advice from other officials, either directly or through the Vereniging NL.019
van Nederlandse Gemeenten (Association of Netherlands Municipalities).

A major change is expected from the new Air Pollution Law since it
proposes a considerable increase in the role of the 11 Provinces. In
future, operating licenses will be granted by the Provincial authorities
after taking the advice of the appropriate municipal officials. The
advice of the Inspectors of the Hoofdinspectie van het Milieu (Environmental NL.003
Health Inspectorate) is available to the provincial authorities
for public health matters, as is that of the Directie voor de Arbeid NL.004
(Labor Inspectorate) for matters concerning the safety and health of

workers. The Minister van Sociale Zaken en Volksgezondheid (Min. SZ&V; Minister for Social Affairs and Public Health) can also give directives to the Provincial authorities.

Finance

The guiding principle of the new Air Pollution Law provides that the polluter shall pay for the costs of controlling pollution. This law proposes that an industrial fund be maintained by levies, in equal proportions, on the basis of pollution from industry, home heating, and traffic. This fund will be used to pay for the proposed national monitoring survey system and to recompense individuals suffering damage where the source has not been identified. There will be no subsidies for abatement measures undertaken by industries; each must carry its own expenses (e.g., for taller stacks). It is estimated that this fund will reach Fl 5-10 million annually. The basis of payment has not been defined, except that those industries needing licenses will pay ([illegible] twice, i.e., both on the fuel used and on the installation itself).

Trends

The immediate future will see the introduction of specific regulations into the framework of the new Air Pollution Law (which is expected to be enacted itself shortly). Further centralization of controls can be foreseen, possibly through the establishment of a central institute for environmental conservation under [illegible].

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

The Government has established the Raad voor de Luchtverontreiniging (Air Pollution Council) to advise on air quality conservation measures for the implementation of the new air pollution law. (This Council replaces an earlier body of similar name whose function was to advise on the appropriate structure for the new law.) The work of this new Council is still in the formative stage. It reports to Min. SZ&V (Ministry of Social Affairs and Public Health). NL.001

The Rijksinstituut voor de Volksgezondheid (RIV--State Laboratory NL.006
for Public Health) at Bilthoven near Utrecht is the central official laboratory for the Netherlands for air pollution measurements. It is expected to become the country's air quality measurement center. Plans to establish a national continuous monitoring network, already initiated locally by the Rijnmond Authority, will involve telemetering data to NL.016
Bilthoven from monitoring stations in the nine industrial regions of the Netherlands, for centralized computer serveillance and warning. The Philips organization is providing most to the equipment for this proposed NL.026
scheme, the installation of which is expected to cost some fl 10 million. Only sulfur dioxide will be monitored to begin with, but the plans extend to nitrogen oxides, oxidants and eventually carbon monoxide and hydrogen carbide, as equipment becomes available from Philips or other sources.

The RIV undertakes much of its work at the request of the Hoofdinspectie van het Milieu (Environmental Health Inspectorate), whose NL.003
inspectors have extensive experience in the enforcement of clean-air regulations. They are, in effect, local environmental "watchdogs." With the introduction of the new Air Pollution Law, their powers are expected to grow; ultimately it is planned that each province will have its own Inspector, who will work closely with headquarters and with the RIV. Both the RIV and the Hoofdinspectie report to the Min. SoZaVo.

The Koninklijk Nederlands Meteorologisch Instituut (KNMI--Royal Dutch NL.005
Meteorological Institute) plays an important part in the meteorological aspects of air pollution research in the Netherlands. Dr. F.H. Schmidt, the director, has assisted in the development of the Rijnmond Authority's monitoring system and the eventual development of the national survey. His early work on the dispersion of plumes (rivalling that of Pasquill in the United Kingdom Meteorological Office) has now been taken over by Dr. GB.032
C.A. Velds.

A very important national organization, with a growing international reputation, is TNO (Toegepast Natuurwetenschappelijk Onderzoek--Applied Scientific Research). This body, comprising several institutes, is an independent organization set up by the government in [illegible] to stimulate research into many aspects of Dutch social and industrial life. It is financed by commissioned work from industry and from government departments. The confidential and independent nature of TNO investigations is much appreciated by the industries commissioning the work. The more official and public nature of the similar activities of [illegible] works in TNO's favor in this respect. TNO issues several reports each year on technical and social aspects of its work.

Recognizing the growing importance of environmental conservation, TNO has established a Commissie voor Onderzoek ten Dienste van het Milieubeheer-TNO (TNO Committee for Research in the Service of Environmental Conservation). This commission comprises representatives from a wide range of groups concerned with research into problems of environmental conservation. Its function lies in the recognition of current research activities and the identification of the areas for further research work. In doing so, it assists in the formation of optimum pollution control policies.

To provide support for this Committee, TNO has also set up a Studie- en Informatiecentrum voor Onderzoek ten Dienste van het Milieubeheer-TNO (Study and Information Center on Environmental Research). This group is preparing a register of Dutch environmental research work, which will be made publicly available. Studies are also being made of the present situation in order to define further research needs. A newsletter is proposed as a means of disseminating objective statements about conservation activities and related matters to meet the Center's principal objective of making information available to all who want to know.

TNO-IG (Instituut voor Gezondheidstechniek-TNO--Institute for Public Health Engineering) was set up several years ago to undertake research into all problems of health and environment. Two of its [illegible] research divisions are concerned with air pollution: [illegible] the Atmospheric Pollution Division (under Ir. L.J. Brasser) is responsible for research into [illegible]

of analysis, measurements of outdoor pollution levels (either autonomously
or at the request of local authorities or industries), and correlations
among emissions, pollution levels and public health; and (2) the Indoor
Air Division (under Ir. P.N. Meijer) is concerned with occupational
hygiene inside industrial premises and with giving advice on abatement
methods. (Both Divisions are assisted by P.E. Joosting, nondivisional
specialist on medical matters.) The Instituut voor Wegtransportmiddelen- NL.010
TNO (Institute for Road Vehicles) is an additional TNO institute that
deals with the technical possibilities for reducing vehicle emissions.

Another Institute of TNO, the Central Technisch Instituut (Central NL.012
Technical Institute), is more oriented toward the industrial aspects of
the TNO work in air conservation. Research under Mr. B. de Geode covers
methods of analysis of pollutants (chromatography); the Institute also
studies and gives advice on the treatment of effluent gases in chemical
engineering, including research on the pilot plant scale into methods of
abatement. This is the principal center of such research in the Nether-
lands. In the Central Laboratory of TNO, a group has been set up to study NL.011
such topics as atmospheric chemistry.

Four provinces already have Air Pollution Committees to guide and coordinate the activities of all the municipalities in their areas:

1. Noord Holland coordinates the work of Amsterdam (which has NL.015
   its own AP Committee and--exceptionally--its own laboratories), NL.018
   Zaamstreek, Haarlem (including Ijmuiden), etc.

2. Zuid Holland includes the municipalities of Rotterdam, The
   Hague, Delft, Doordrecht and the Westland fruit growing area.
   This province has its own monitoring network operated by TNO-IG, NL.009
   and also the Rhine Estuary Authority (based around Vlaardingen, NL.016
   near Rotterdam).

3. Zeeland comprises the fast-developing areas of Vlissingen
   and the region south of the Scheldt, where measurements are

currently made by IPO and TNO independently.

4. Limburg, the mining area in the extreme southeast of the Netherlands, is able to use monitoring data taken by Staatsmijnen (the Dutch State Mines).

Despite their present responsibilities for applying the Hinderwet regulations, few municipalities are directly active in air pollution. Exceptions are Amsterdam and Rotterdam, which have commissions for air quality, etc. (Commissie: Bodem, Water, Lucht). These organizations undertake studies of sources of pollution and their abatement, with measurements of ambient levels of smoke and sulfur dioxide. These Municipal Commissions are made up of representatives (18-20) from the Municipal Health Department, the Building and Housing Inspectorate ('Hinderwet' office), the Municipal Power Station, the Waterway Authority and, at Rotterdam, the Bureau of Fume Control. This last is equipped with laboratories that undertake investigations of pollution in the Rotterdam area.

Openbaar Lichaam Rijnmond (the Rhine Estuary Authority or Rijnmond Authority) is a public body set up to monitor pollution levels in the industrial area between Rotterdam and Europoort, along the Nieuwe Waterweg. Under the direction of Dr. L.A. Clarenburg, a fully automatic centralized sulfur dioxide monitoring network has been set up to cover the area. Through a computer, 31 monitoring stations develop norms of pollution against which current levels are automatically compared. When an upward trend for the time of day and wind direction is detected, and when information from the KNMI indicates continuation of the prevailing meteorological conditions for at least 6 hours, a warning is automatically transmitted by telephone to appropriate industrial and municipal premises.

Sulfur dioxide is the pollutant currently monitored by the system, but results are used primarily as an indicator of adverse conditions when other pollutants, especially industrial odors may accumulate and present an environmental nuisance. The main function of the Rijnmond Authority s to achieve improvements in the whole environment of the area.

The Authority is not empowered to take action beyond transmitting the warnings. It cannot, for example, demand corrective measures, which are still a matter between the 23 individual municipal authorities in the area and the industries concerned. It is authorized, however, to register public complaints of pollution nuisance and to transfer them to the appropriate Hinderwet authority.

The Philips organization is intimately involved with this monitoring NL.026
development, and the RIV and KNMI also support it. This activity is NL.005-6
essentially an exploratory stage of the proposed Dutch National Survey.

The Philips industrial organization (NV Philips' Gloeilampenfabrieken) NL.026
is a large and dynamic business, which manufactures a wide variety of
equipment. Its Industrial Automation Group at Eindhoven is developing a
range of fully automated air pollution monitors. The sulfur dioxide
monitor is already in use in the Rijnmond scheme, and the Government has
let it be understood that Philips would assist in setting up the national
survey to be operated by the RIV from Bilthoven. Many other individual NL.
companies, industrial groups and associations are also active in air
pollution in the Netherlands, and, in most instances, their interests are
self-protective.

Under the direction of Dr. J.G. ten Houten and in cooperation with
Min. SoZaVo, the Instituut voor Planteziektenkundig Onderzoek (IPO-- NL.040
Institute for Phyto-pathological Research) at Wageningen conducts research
on the effects of air pollution on agriculture and disseminates resulting
information. As a part of the University of Agriculture at Wageningen, it
also has connections with the Ministry of Agriculture. A large and wide-
spread organization, the IPO has offices in many parts of the Netherlands.
Its air pollution work involves, for example, investigating alleged crop
damage for court cases. It is supported in part also by TNO-IG. NL.009

APPENDIX A

ESSENTIALS OF THE HINDERWET (PUBLIC [illegible]

Art. 2. It is illegal to establish or to operate without a licence an installation which may cause danger, damage or nuisance outside the installation itself.
These installations are enumerated in a general administrative order.

Art. 3. The local municipalities grant the licences.

Art. 15. A licence will be refused only when it is reasonably to be feared that, due to the installation or the working of the installation itself, either danger, damage to properties, undertakings or health, or serious nuisance will be experienced which can not satisfactorily be prevented by means of provisions.

Art. 16. The licence may be granted for a certain period.

Art. 17. The licence may be granted on certain other conditions.

Art. 21. It is also possible for a licence to be granted by provincial authorities when provincial interests are involved.

Art. 26. [illegible] the conditions of a licence can not be complied with, the licence can be discontinued.

Art. 28. Installations working without a licence and enumerated in the general administrative order as mentioned in art. 2 can be closed down.
Installations can also be closed when the licensee does not meet the conditions of the licence.

Art. 29. Appeals may be made to the Crown against any decision. Petitions have to be filed with the local authorities who granted the licence.

Art. 31. Violation of these rules is punishable by a fine or by imprisonment of [illegible] months.

The possession of a licence does not protect the licensee against claims of third parties. If, nevertheless, an installation causes damage to third parties, the damaged party may [illegible] a civil [illegible] for compensation.

NL - 11
Jun 71

APPENDIX B

COUNCIL ON AIR POLLUTION

DE RAAD INZAKE DE LUCHTVERONTREINIGING

Secretariat: Dokter Reijersstraat 10
Telephone 070 694211 Telex 2570
Leidschendam

Mr. .H. Visser, Chairman. Stadhuis Den Helder	Burgomaster of Den Helder.
Mevr.Mr.Chr.A. de Ruijter-de Zeeuw, Deputy Chairman. Koningskade 1-2 's-Gravenhage	Deputy member of the Provincial Government of Zuid Holland.
Mr. W. de Bruijn, Secretary Dokter Reijersstraat 10 Leidschendam	-
Mr. J.A. Alleman, Asst.Secr. Idem	-
Dr. J.J. Barkman Kampsweg 27 Wijster	Biological Laboratories of the Netherland Union Against Water, Soil and Air Pollution.
Mr. F.[illegible] Dokter Reijersstraat 1 Leidschendam	Director of Environmental & Food Hygiene, Ministry of Social Affai & Public Health.(Min.SoZaVo)
Ir. .A. Beukers Postbus 715 Rotterdam	Chairman of Exec.Cttee. of the Europoort-Botlek Industries Organisation. (NL.017)
Mr. .M.C. Brouwerius van Nidek Balen van Andelplein 2 Voorburg	Dir.Gen. for Labour, Hinderwet Dept. (Min. SoZaVo)
Ir. H. Corver Maliebaan 21 Utrecht	Inspector of General Affairs & Planning of the Technical Culture Service (Min.Agric. & Fisheries.)
Ir.J.F. Cusell Van Alkemadelaan 85 's-Gravenhage	Director for the Building Ind (Min. Housing etc.)
J.E. Duintjer Julianalaan [illegible] Veendam	Air Pollution Working Gp. of the Industrial Water Commission.
Ir. H. Ellers Dokter Reijersstraat 8 Leidschendam	Inspector in the State Supervision of Public Health (Min.SoZaVo)
Ir. A. Eshout Rochussenstraat 200 Rotterdam	Rotterdam Municipal Electricity Board.

Mr. H.B. Engelsman Stationsplein 2 Schiedam	[illegible]
Dr. N.J.A. Groen Dokter Reijersstraat 8 Leidschendam	Environmental Hygiene Inspector [illegible] Chief [illegible]
Ir. [illegible] Hellemans Prinses Marielaan 1 Amersfoort	Director of the [illegible] [illegible]
[illegible] van H[illegible]wegen [illegible] 24 [illegible]	[illegible] Burgomaster of [illegible]
Dr. W.H. Kemmers [illegible]straat [illegible] 's-Gravenhage	Dir. Gen. of the Central [illegible] [illegible] Cooperatives.
Ir. [illegible]G. Kuiperbak [illegible]weg [illegible] 's-Gravenhage	Chief Inspector of the State Service for Road Traffic (Min. [illegible])
Ir. A.H.W. Martens [illegible]laan [illegible] Heerlen	Inspector of the State Supervision of Mines.
Mr. Mr. [illegible] van Ommen [illegible]voordelaan 370 Rijswijk Z.H.	Policy-forming Dept. for Open Air Recreation (Min. Culture, Recreation & Social Security)
Ir. M.W. den Outer Rochussenstraat 200 Rotterdam	Director of Rotterdam Municipal Electricity Board.
Ir. W.C. [illegible] [illegible] van [illegible]plein 2 Voorburg	Dir. Gen. for Labour (Min. [illegible])
Mr. [illegible] van [illegible] [illegible]straat 5 's-Gravenhage	Director of Assn. of Netherlands Municipalities (NL.0[illegible])
Dr. [illegible] Schuitstra Paviljoenslaan 9 Haarlem	Director of Provincial Council for Public Health.
Prof. Dr. F.H. Schmidt Utrechtseweg 297 De Bilt	Director of the Special Division for Scientific Research of the KNMI (NL.06)
[illegible] H.N. Sikkes Achter de St. Pieter 20 Utrecht	Deputy Member of Utrecht Municipal Council.

APPENDIX B (continued)

Ir. W. van Soest Ie van den Boschstraat 4 's-Gravenhage	Director of the Horticultural Trade Directorate (Min.Agric. & Fisheries)
Prof. Dr. J.W. Tesch Koningin Marialaan 21 's-Gravenhage	Chairman of TNO Health Organisation. (NL.0[illegible])
Mr. A. Uyt den Bogaard Postbus 7150 Rotterdam	Secretary of the Exec.Cttee. of the Europoort Botlek Industries Organisation. (NL.017)
[illegible] Verweij Prinses Beatrixlaan 5 's-Gravenhage	Secretary of the Environmental Hygiene Committee of the Federation of Netherlands Employers. (N[illegible])
Ir. W. Visser te IJmuiden	Head of Chemical Technological Dept. of the Royal Dutch Blast Furnaces & Steel Works. (NL.014)
Dr. Ir. G.J. van der Vlies Shell Nederland Raffinaderij Pernis	Head of Toxicology Dept. (NL.[illegible])
Mr. L.G. Wansink Bezuidenhoutseweg 30 's-Gravenhage	Dir.Gen. for Energy Supplies (Min. Econ. Affairs).
Ir. H. Wiggerts Lange Voorhout 19 's-Gravenhage	Head of State Planning Service.
Mr. N.M. Zijp Raamweg 25-28 's-Gravenhage	Agricultural Commission.

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S I

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible],
[illegible]

Tel [illegible]

AFFIL [illegible]
[illegible]
[illegible] Environ'l [illegible]

Title	PERSONNEL	Function
Ir.	S. H. [illegible]	chairman
Hr.	W. de Bruin	secretary

50 members [illegible]
[illegible] Netherlands [illegible]

AP aims and actions

[illegible] Minister on measures to be taken [illegible]
[illegible]
[illegible] effective abate-
ment measures [illegible]
[illegible]

Comments

[illegible]

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S I

No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM

See also

ADDRESS [illegible],
[illegible]

Tel [illegible].47.1

AFFIL Min. van Volksgezondheid en
Milieuhygiene (Min. of Public
Health & Environ'l Hygiene).

Title PERSONNEL Function

AP aims and actions

[illegible] national standards for maximum allowable
concentrations for SO.

Comments

[illegible]

[illegible]

NL 003 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.[illegible] S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: HOOFDINSPECTIE VAN HET MILIEU
Environmental Health Inspectorate

ACRONYM:
See also

ADDRESS: Dokter Reijersstraat 10,
LEIDSCHENDAM.

Tel: (070) [illegible].42.11

AFFIL: Min. van Volksgezondheid en
Milieuhygiene (Min. of Public
Health & Environ'l Hygiene).

Title	PERSONNEL	Function
Dr.	N.J.A. [illegible]	Director
Drs.	F. Hart[illegible]	
Ir.	H. Ellers	
Ir.	W.J. K[illegible]	

+ 7-8 district inspectors
(possibly increasing to 15-20 by 1975)

AP aims and actions:
Surveillance and enforcement of clean air regulations;
advice to [illegible] authorities.
[illegible] and practical work handed to RIV (NL.00[illegible]

Comments:
Powerful official body.

NL.003 Hoofdinspectie van het Milieu 7.[illegible]

NL [illegible] GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.[illegible] S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: DIRECTIE VOOR DE ARBEID
Labour Directorate

ACRONYM:
See also

ADDRESS: Balen van Andelplein [illegible],
VOORBURG.

Tel

AFFIL: Min. [illegible] Volksgezondheid en
Milieuhygiene (Min. of Public
Health & Environ'l Hygiene).

Title	PERSONNEL	Function
Ir	H.J. van [illegible]- Tenyberv[illegible]	adviser on AP matters.

AP aims and actions:
Supervision of appropriate factory legislation.
Advisory role in application of Hinderwet; reviews all
applications for licences, esp. as regards potential
hazards for workers.

Comments:

NL.004 Directie voor de Arbeid 7.[illegible]

NL [illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 [illegible]

Country No. Type Functions Sources Effects Controls Remarks Size Status Date

NAME KONINKLIJK NEDELANDS METEOROLOGISCH INSTITUUT

Royal Netherlands Meteorological Institute

ADDRESS

De Bilt.

Tel

AFFIL

ACRONYM [illegible]

Title	PERSONNEL	Function
Prof.	F. H. [illegible]	[illegible]
	C. A. [illegible]	
Dr.	M. W. [illegible]	

AP aims and actions

Meteorological aspects of AP.

Comments

[illegible]

[illegible] A B C D E F [illegible] 04 05 11 1[illegible] 13 14 15 [illegible] 23 24 [illegible] A M S T [illegible]

Country No. Type Functions Sources Effects Controls Remarks Size Status Date

NAME [illegible]

[illegible]

ADDRESS

[illegible]

Tel

AFFIL [illegible]

ACRONYM [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

[illegible]

NL	007	NAT	~~A~~ ~~B~~ C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	~~L~~ M S	~~Y~~ 2 3	1.71	S I
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME COMMISSIE VOOR ONDERZOEK .. VAN HET MILIEUBEHEER TNO
TNO Committee for Research on Environmental Problems

ACRONYM

See also NL.00?-012

ADDRESS Schoemakerstraat 97,
DELFT.

Tel (01750) 37.00.0

AFFIL TNO (see text).

Title	PERSONNEL	Function
Ir.	E. F. [illegible]	chairman

2? members representing government, industry, agriculture, recreation, education, etc. (see list over).

AP aims and actions

To assist in policy formation [illegible] coordination between all organisations concerned with research into environmental problems.
To help in preparing [illegible] [illegible] [illegible] the joint action [illegible].

Comments

Established Sept 1970.

NL.00? Commissie voor Onderzoek van het Milieubeheer TNO 1.71 Y

NL.00? Commissie TNO [illegible] [illegible] 1.71

Min. Soc. Aff. & Public Hlth	Dr. [illegible]
Min. Agriculture & Fisheries	Ir. [illegible] Dekker
Min. Education & Science	Dr. [illegible]
Min. Culture, Recreation, etc.	Drs. [illegible]
Min. Economic Affairs	Mr. A.A. [illegible] Bruijn
Min. Transport & Waterways	Ir. A. [illegible] Graaff
Min. Public Housing	Ir. F. [illegible]
[illegible] Organisation	Ir. E.F. [illegible] Chairman
[illegible] of Industries	[illegible], [illegible] Meerman, Ir.W. [illegible]
[illegible]	Dr. [illegible]
[illegible]	[illegible]
Agricultural [illegible]	Ir. J. [illegible]
[illegible]	Mr. A.J. [illegible] den Berge
[illegible]	Drs [illegible]
	Profs: [illegible] van Genderen, [illegible], E.W. [illegible], [illegible] Koenen, A. [illegible] Staverman, [illegible] Dr. M.W.F. [illegible].

NL COC NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 [illegible]

Country No. Type Functions Sources Effects Controls Receivers Res. Status

NAME [illegible]

Study and Information Centre on Environmental Research ([illegible])

ACRONYM

ADDRESS [illegible]straat 97,
[illegible]

Tel. [illegible]

AFFIL. [illegible]

Title	PERSONNEL	Function
Dr.	[illegible]	[illegible]
Drs.	[illegible]	[illegible]
Ir.	[illegible]	[illegible]

AP aims and actions

Comments

[illegible]

NL COC NAT A B C D E F [illegible]

Country No. Type Functions Sources Effects Controls Receivers Res. Status

NAME [illegible]

ACRONYM

ADDRESS [illegible]

Tel. [illegible]

AFFIL. [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

Comments

[illegible]

[illegible] 010 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 [illegible] 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]
[illegible]

ACRONYM
See also [illegible]

ADDRESS [illegible]
[illegible]

Tel. [illegible]
AFFIL. [illegible]

Title PERSONNEL Function
[illegible]

AP aims and actions
[illegible]

Comments

[illegible]

[illegible] A B C D E F [illegible] 14 15 21 22 23 24 25 [illegible] 33 34 35 L M S 1 2 3 [illegible] S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]
[illegible]

ACRONYM
See also [illegible]

ADDRESS [illegible]
[illegible]

Tel. [illegible]
AFFIL. [illegible]

Title PERSONNEL Function
[illegible]

AP aims and actions
[illegible]

Comments

[illegible]

NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1,71 5 7

Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

Central Technical Institute [illegible]

ACRONYM [illegible]

See also [illegible]

ADDRESS [illegible]

Tel

AFFIL

Title	PERSONNEL	Function
	F. R. [illegible]	Head of Dept. of Technological Advice.

AP aims and actions

[illegible] and partic[illegible]

Research [illegible] treatment [illegible] wastes from [illegible] work (contract [illegible]) [illegible] T.4

Comments

NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1,71 5 7

Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also

ADDRESS [illegible] laboratory,

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	P.G. [illegible]	All matters.

AP aims and actions

Measurement [illegible] and

[illegible]

Making some measurements for [illegible]

Research into methods of abatement.

Comments

NL 014 [illegible] A B C D E [illegible] 34 [illegible] 34 35 [illegible] M S 1 2 3 [illegible] 71 S 7

Country | No. Type | Functions | Sources | Effects | Controls | Pollutants | Size | Status | Date

NAME [illegible] | ACRONYM

Central Coordinating Commission for AP in South Holland

See also NL.[illegible]

ADDRESS Provinciehuis,
Koninginnegracht 1,
DEN HAAG.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
	K. [illegible]	Secretary

AP aims and actions | Comments

[illegible] activities of [illegible] environmental situation in area. [illegible] Municipality. Measurements by TNO-[illegible] (NL.[illegible]). [illegible].

[illegible] .71

NL [illegible] A B [illegible] 24 [illegible] 34 35 [illegible] M S 1 2 [illegible] S 7

[illegible] | Controls | Pollutants | Size | Status | Date

NAME [illegible] | ACRONYM

[illegible]

See also

ADDRESS [illegible],
[illegible],
HAARLEM.

Tel

AFFIL

Title	PERSONNEL	Function
	[illegible]	[illegible]

AP aims and actions | Comments

[illegible] and [illegible] reports.
[illegible]
[illegible].

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]BAAR LICHAAM RIJ[illegible], Commissie voor de M[illegible] Hygiene
[illegible] Estuary Authority, Office for Environmental Hygiene

ACRONYM Rijnmond Auth.

See also NL.005-6-26

ADDRESS [illegible]plein [illegible],
[illegible]DAM.

Tel. [illegible]

AFFIL [illegible] in the area.

Title	PERSONNEL	Function
Dr.	L. A. Clarenburg	director
Ir.	E. van der Berg	asst. director
	C. H. [illegible]	supervisor of network
Drs.	T. van [illegible]	sociologist
	total of [illegible] incl.	fieldwork-rsl.

AP aims and actions

[illegible] centralised [illegible] SO₂ monitoring
[illegible] the Rijnmond area, with computer-based warn-
[illegible] and [illegible] industry in its area.
[illegible] (mostly smells).
[illegible] supporting munici-
[illegible].

Comments

Supported from local taxes, and by RIV (NL.006), Philips (NL.036) and KNMI (NL.005).
[illegible] used as indicator of pollution levels, esp. industrial smells; may widen to monitoring other pollutants (NO_x, oxidant) later.
[illegible] no authority to demand remedial action; this remains with local authorities (Hinderwet).
[illegible] 0.4m operating budget.

[illegible] Openbaar Lichaam Rijnmond (Rijnmond Authority) 1.71

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME ROTTERDAM, Commissie Bodem, Water, Lucht
[illegible] Commission for Soil, Water and Air

ACRONYM

See also NL.018 NL.0[illegible]

ADDRESS [illegible],
[illegible]DAM.

Tel.

AFFIL Rotterdam Municipal Authority

Title	PERSONNEL	Function
	[illegible] B. Hoogendijk	secretary
	M. J. Heiten	Building & Housing Inspect'e
Ir.	S. Koopman	" " "
Drs.	W. R. Kri[illegible]	Envtl. Hyg. Inspect'e [illegible]
Ir.	E. van den Berg	Rijnmond Authority
Mr. Ir.	[illegible]	Labour Inspect'e, [illegible]
Dr.	K. [illegible]	Health Dept.

AP aims and actions

[illegible] of air quality [illegible] around Rotterdam.
[illegible] of incidents and sources of pollution.
[illegible] recommendation of abatement measures.
[illegible] Rotterdam Municipal Authority.

Comments

[illegible] the principal municipal commission of this type, and the most experienced.

NL.01[illegible] Rotterdam Commissie Bodem, Water, Lucht 1.71

[illegible] 7.69

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: [illegible], WATER, LUCHT

Amsterdam Commission for Soil, Water and Air

ACRONYM:

See also: NL.017 NL.019

ADDRESS: Nieuwe Achtergracht [illegible],
AMSTERDAM.

Tel:

AFFIL: Amsterdam [illegible]

Title	PERSONNEL	Function
Dr	A.L.Noordam	secretary

10-20 members including representatives of the Health Dept., Building and Housing Inspectorate, and the Power Station.

AP aims and actions:

Consideration of air quality around Amsterdam.
Studies of abatement principles.
Commissions measurements of pollutant levels as needed.
Advice to Amsterdam Municipal Authority.

Comments:

One of the few municipal commissions of this type (see also NL.017).

NL.[illegible] Amsterdam: Commissie Bodem, Water, Lucht 7.69

NL 019 ASN A ~~B~~ C ~~D~~ E F 01 02 03 04 05 11 12 13 14 15 21 22 ~~23~~ 24 25 31 32 33 34 35 L M S 1 ~~2~~ 3 1.71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: VERENIGING VAN NEDERLANDSE GEMEENTEN

Association of Netherlands Municipalities

ACRONYM:

See also: NL.007

ADDRESS: Paleis-Straat 5,
DEN HAAG.

Tel:

AFFIL:

Title	PERSONNEL	Function
Dr	H.A.Idenburg	asst. director

AP aims and actions:

Provides AP (etc) advice for guidance of municipalities, esp. those with no Commission for AP of their own.
Makes own, or commissions surveys.

Comments:

Represented on TNO Commissie (NL.007

NL.019 Vereniging van Nederlandse Gemeenten 1.71

NL 006 RPC A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME SANERINGS COMMISSIE (RIJNMOND GEBIED)

Rhine Estuary Area Health Commission

ACRONYM

See also NL.004 NL.016

ADDRESS [illegible] 170,
ROTTERDAM.

Tel

AFFIL

Title	PERSONNEL	Function
Prof.	H. Boerma	chairman

+ 15 members representing municipalities of area, Arbeidsinspectie (NL.004), OLR (NL.016).

AP aims and actions

To develop practical measures for improving all aspects of the environment in the Rhine Estuary area.

Comments

Set up Nov. 1970.
Has technical sub-cttee for industrial pollution control problems.

NL.006 Saneringscommissie (Rijnmond Gebied) 1.71

NL 007 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME STICHTING EUROPOORT/BOTLEK BELANGEN

Association of Europort-Botlek Industries

ACRONYM

See also

ADDRESS [illegible] 7150,
ROTTERDAM.

Tel [illegible]

AFFIL see title

Title	PERSONNEL	Function
Ir	J.A.Beukers	chmn. of Executive Cttee. spokesman for AP matters.
	A.Uyt den Bogaard	sec. of Executive Cttee.

AP aims and actions

To keep informed of AP opinions and regulations, and to represent its members in local and national discussions of AP.

Is informed of short-term pollution levels by Rijnmond Authority.

Comments

NL.007 Stichting Europoort/Botlek Belangen 1.71

NL TUD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71 5 T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME PHILIPS NEDERLAND [illegible]

ACRONYM Philips

See also

ADDRESS

EINDHOVEN

Tel 040-[illegible] 33 33

AFFIL N.V. Philips Gloeilampen-fabrieken.

Title	PERSONNEL	Function
Ir	J.H.C.van Mourik	1/6 AP work
Ir	C.W. Vermeulen	Industrial automation div.
	H.J. Br[illegible]	res. lab. head

+ 5-10 others in res. labs.
+ [illegible] of instruments div.

AP aims and actions

Development of high quality instruments, preferably automatic, for AP monitoring, both indoor and outdoor.

[illegible] developed [illegible] Rijnmond Authority plans [illegible]; [illegible] instruments [illegible].
[illegible] telemeter-[illegible] developed.

[illegible]

Comments

Largest instrument manufacturer in NL.

NL [illegible] 7.71

NL TUD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME KONINKLIJKE/SHELL LABORATORIUM, AMSTERDAM

[illegible] Shell [illegible], Amsterdam

ACRONYM

See also

ADDRESS

AMSTERDAM

Tel

AFFIL Royal Dutch Shell Group

Title	PERSONNEL	Function
Dr	K.van der [illegible]	1/6 AP work

AP aims and actions

[illegible] means of abatement.
[illegible] of Shell companies.

Comments

NL [illegible] Koninklijke/Shell Laboratorium, Amsterdam 7.71

NL 028 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SHELL NEDERLAND RAFFINADERIJ, ROTTERDAM
Shell Netherlands Refinery, Rotterdam

ACRONYM:
See also NL.027

ADDRESS: Pernis,
ROTTERDAM.

Tel: 010 - 31 91 11

AFFIL: Royal Dutch Shell Group

Title	PERSONNEL	Function
Dr Ir	G.S.van der Vlies	head of Technical Div.

AP aims and actions:
Measurement of pollution levels around refinery.

Comments:

NL.[illegible] Shell Nederland Raffinaderij, Rotterdam 7.69

NL [illegible] IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: KONINKLIJKE NEDERLANDSE HOOGOVENS EN STAALFABRIEKEN
Royal Netherlands Iron and Steel Works

ACRONYM:
See also

ADDRESS:
IJMUIDEN.

Tel:

AFFIL:

Title	PERSONNEL	Function
Ir	W. Visser	i/c AP matters.

AP aims and actions:
Measurements of SO_2, NO_2 and vegetation damage around works.
Research into methods of abatement.

Comments:

NL.[illegible] Koninklijke Nedelandse Hoogovens en Staalfabrieken 7.69

NL 030 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME VERENIGING KRACHTWERKTUIGEN
Society of Power Engines

ACRONYM
See also

ADDRESS Regentesselaan 2,
AMERSFOORT.

Tel
AFFIL

Title	PERSONNEL	Function
Dr	F.G.Fohr	lab. director

AP aims and actions
Studies methods of abating pollution from engine exhausts.
Advises Fed. of Netherlands Employers (NL.032).

Comments

NL.030 Vereniging Krachtwerktuigen, Amersfoort 7.69

NL 031 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME VERENIGING VAN DIRECTEUREN VAN ELECTRICITEITSBEDRIJVEN....*
Society of Directors of Power Stations....*

ACRONYM VDEN-KEMA
See also

ADDRESS Utrechtseweg 310,
ARNHEM.

Tel
AFFIL

Title	PERSONNEL	Function
Ir	A.J.Elshout	i/c AP matters.

AP aims and actions
Determination of dust and SO2 in the neighbourhood of power stations.

Comments
Apparently does not publish results.

*...EN KEURING VAN ELECTROTECHNISCHE MATERIALEN ...and Institute for Testing Electrotechnical Materials.

NL.031 Vereniging van Directeuren van Electriciteitsbedrijven... 7.69

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
NL	040	ASN	A B̸ C D E F̸	01 02 03 04 05	11 12 13 14 15̸	2̸1 22 23 24 25	31 32 33 34 35	L M S̸	1 2 3̸	1.71	S	T

NAME: RAAD VAN NEDERLANDSE WERKGEVERSVERBONDEN: Bureau Milieu
Federation of Netherlands Employers: Office of Envtl Hyg.

ACRONYM:

See also

ADDRESS: Prinses Beatrixlaan 5,
P O Box 2110,
's-GRAVENHAGE.

Tel: 070 - 81 41 71

AFFIL:

Title	PERSONNEL	Function
	J.E.Duintjer	president
Ir	J.A.Beukers	vice-president
	L.Verweij	secretary

AP aims and actions:

Information exchange for members regarding impact of AP regulations on industrial operations and employees.

Comments:

Maintains contact with Govt. and trade unions, etc.

NL.040 Raad van Ned. Werkgeversverbonden: Bureau Milieu 1.71

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
NL	041	ACD	A̸ B̸ C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32̸ 33̸ 34̸ 35	L M̸ S	1 2 3̸	1.71	S	T

NAME: T/U ENSCHEDE, Lectorat Chemische Gezondheidstechniek
" Faculty of Environmental Hygiene

ACRONYM

See also

ADDRESS: ENSCHEDE.

Tel:

AFFIL:

Title	PERSONNEL	Function
Ir.	H. Peters	lecturer
	+ 5 staff	

AP aims and actions:

Study of flue gas cleaning and desulphurisation.

Comments:

NL.041 T/U Enschede, Lectorat Chemische Gezondheidstechniek 1.71

NL 040 NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 1.71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUUT VOOR PLANTENZIEKTENKUNDIG ONDERZOEK

Institute for Phytopathological Research

ACRONYM I P O

See also

ADDRESS Binnenhaven 12,
WAGENINGEN.

Tel

AFFIL Min. of Agric. & Fisheries.
Univ. of Wageningen

Title	PERSONNEL	Function
Dr.	J. G. ten Houten	director
Dip.Ing	F. H. [illegible]	

AP aims and actions:

Research into the effects of AP on plant growth and crop yields.
Investigation of instances of plant damage (possibly as evidence in legal proceedings).

Comments:

Cooperates with Min.v.SoZaVo (Min. of Social Affairs & Public Health).
Offices in many parts of NL.
Wider interests than AP only.

NL.24 [illegible] Onderzoek

NL 041 [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: STICHTING INTERNATIONAAL CONTACTORGAAN MILIEUBESCHERMING

International Contact Organisation for Environmental Cons'n

ACRONYM S I C O M

See also

ADDRESS [illegible] 24,
[illegible]

Tel

AFFIL

Title	PERSONNEL	Function
I.Dr	L. A. Clarenburg	chairman (GIR - NL.[illegible])
[illegible]	[illegible] Broeder	secretary (TNO - NL.00[illegible])

+ 5 members from organisations listed over.

AP aims and actions:

To provide non-governmental organisations to represent Netherlands views on IUAPPA and elsewhere.

Comments:

Member of IUAPPA (Y.02[illegible]).

NL.041 Stichting Internationaal Contactorgaan Milieubescherming 7.71 ×

NL.049 Stichting Internationaal Contactorgaan Milieubescherming 7.71

Member organisations:-

Openbaar Lichaam Rijnmond (OLR - NL.016)
Stationsplein 2, SCHIEDAM. (010.26.26.26)

Instituut voor Gezondheidstechniek-TNO (NL.009)
Schoemakerstraat 97, DELFT. (01730.37.00.0)

De Nederlandse Vereniging tegen Water, Bodem en Lucht-verontreiniging
Oude Delft 95, DELFT. (01730.25.58.1)

Koninklijk Instituut voor Ingenieurs; Afd. Gezondheidstechniek.
Prinsesse gracht 23, Den HAAG. (070.18.45.47)

Koninklijke Nederlandse Chemische Vereniging, Sectie Milieu Chemie
Burnierstraat 1, Den HAAG. (070.11.07.44)

Vereniging Kracht Werktuigen
Regentesselaan 2, AMERSFOORT. (03490.17.24.5)

Vereniging voor Sociale Geneeskunde

NL 051 300 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.69 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: AKTIECOMITÉ LEEFBAARHEID AMSTERDAM EN NOORDZEEKANAALGEBIED
Action Cttee for a Livable Env't in Amsterdam and ... Area

ACRONYM

See also

ADDRESS
AMSTERDAM.

Tel:

AFFIL:

Title	PERSONNEL	Function
Dr	J. W. Copius-Peereboom	chairman

AP aims and actions:

Conservation of the environment.

Comments:

Originally set up to fight proposal by Progil (France) to set up plant near Amsterdam.

Dr. C-P is a lecturer at Amsterdam Univ.

NL.051 Aktiecomité Leefbaarheid Amsterdam... 7.69

NL [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S T

Country No Type Functions Sources Effects Controls Remedies Size Status Dat

NAME [illegible] IN EN OM HET NIEUWE-WATERWEGGEBIED.
Assn. against AP in and around the New Waterway Area

ACRONYM

See also

ADDRESS [illegible]straat [illegible],
VLAARDINGEN.

Tel 010 - 34 75 [illegible]

AFFIL

Title	PERSONNEL	Function
Dr	C.J.Henning	director
	H. Boerma	secretary

AP aims and actions

Presses for clean air in the New Waterway area.

Comments

Citizens' pressure group; very active in correspondence etc with Ministries etc...
Have requested access to emission data for area to see if reasonable.
[illegible] skilled.
Publishes "[illegible]"; [illegible]

NL [illegible] Vereniging ..... Nieuwewaterweggebied [illegible]

NL [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 4 [illegible] T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME VOORLICHTINGSCENTRUM VOOR NATUURBESCHERMING
Information Centre for Nature Conservation

ACRONYM

See also

ADDRESS [illegible]gracht [illegible],
AMSTERDAM.

Tel

AFFIL

Title	PERSONNEL	Function

AP aims and actions

Promotes environmental conservation.

Comments

Private organisation.
Netherlands body for 1970 European Conservation Year.

NL [illegible] Voorlichtings Centrum voor Natuurbescherming 7.[illegible]

NEW ZEALAND

New Zealand is very mountainous, with local problems in air dispersion. As a whole, the country is subject to rapidly successive high and low systems and, correspondingly, is well ventilated. Since domestic heating is required in the winter, the continued use of domestic coal fires in the South Island results in air pollution in urban areas, chiefly at Christchurch. There are geothermal sources of pollutants near urban areas in Central North Island. As a result of the growth of industries and an increase in motor traffic, attention is being directed to the need for pollution controls in main urban areas.

The approach to the problem of air pollution in New Zealand is similar to that of Great Britain, with a central Chemical Inspectorate in the Department of Health for major industries. Local authorities are responsible for controlling smoke and pollution from minor industries and domestic sources; and traffic police, for motor vehicles. Complete measurements and controls are maintained over all radioactive substances, both from local points of origin and in the atmosphere.

Currently, responsibility for pollution control is divided among many departments of the central government. Efforts are being made to coordinate these areas of interest under an Environmental Council, and a new Clean Air Bill is in draft. This legislation is expected to cover motor vehicles and domestic sources, as well as industrial emissions. The present draft would require taking the "best practical means" to reduce emissions, so as to be within published standards and regulations defining allowable emissions. The public is concerned about all forms of pollution, and numerous pressure groups are supporting the need for new legislation.

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[*] Information for this review was supplied by Mr. R.T. Douglas, Chief Chemical Inspector, at Wellington, and Professor W. Strauss of the Clean Air Society, at Melbourne.

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NZ 001 Gov A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4/71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Chemical Inspectorate
Public Health Division

ACRONYM

See also

ADDRESS
Dept. of Health
P.O. Box 5013
Wellington, New Zealand

Tel

AFFIL
Air Pollution Committee of N.Z.
Board of Health

Title	PERSONNEL	Function
Mr.	R. T. Bowditch	Chief Chemical Inspector
Mr.	N. G. Thom	Auckland Chemical Inspector
Mr.	D. Pulley	South Island Chemical Inspector
Dr.	G. Daly	Advisor in Plant Ecolo

AP aims and actions

1. Implementing Part V of Health Act.
2. Monitoring pollutants in the atmosphere.
3. Education and advising of local authorities and industry.
4. Preparation of emission and air quality standards.

Comments

Similar to British Alkali Inspectorate. Local authorities administer "smoke regulations", with appeal to Chemical Inspectorate from industry.

NZ 002 Gov A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9/71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME New Zealand Meteorological Service

ACRONYM

See also

ADDRESS
Salamanca Road,
P.O. Box 722, Wellington, N.Z.

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	J.F. Gabites	Director
Dr.	J.F. deLisle	Assistant Director (Research)

AP aims and actions

Conducts field tests for siting of power stations, industrial plants, and advising town and country planning authorities.

Maintains continuous monitoring network, standard measurements.

Comments

NZ	003	Gov	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	9/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: National Radiation Laboratory

ACRONYM

See also

ADDRESS
P.O. Box 1456
Christchurch, New Zealand

Tel

AFFIL

Health Department

Title	PERSONNEL	Function
Mr.	G. E. Roth	Director

AP aims and actions:

All aspects of air pollution control relating specifically to radiation hazards, artificial and natural. Surveys of radio-active fallout in N.Z and Pacific Island territories.

Comments:

NZ	004	NAT	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	4/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Dept. of Scientific and Industrial Research

ACRONYM: DSIR

See also

ADDRESS
Chemistry Division or Institute of
Nuclear Sciences
D.S.I.R.
Private Bag
Petone, New Zealand

AFFIL

Title	PERSONNEL	Function
Dr.	Ellis	Director, Chemistry Division
Dr.	Rafter	Director, Nuclear Sciences

AP aims and actions:

Development of cheap materials for absorption of hydrogen sulphide for protection of persons and electrical/telephone installations. The DSIR also maintains Institute of Nuclear Science at Lower Hutt, New Zealand, network for continuous monitoring of isotopes of H, C, O in air and water.

Comments:

NZ 003 Gov. A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9/71 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME National Radiation Laboratory

ACRONYM

See also

ADDRESS
P.O. Box 1456
Christchurch, New Zealand

Tel

AFFIL

Health Department

Title	PERSONNEL	Function
Mr.	G. E. Roth	Director

AP aims and actions

All aspects of air pollution control relating specifically to radiation hazards, artificial and natural. Surveys of radio-active fallout in N.Z and Pacific Island territories.

Comments

NZ 004 Nat. A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4/71 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Dept. of Scientific and Industrial Research

ACRONYM DSIR

See also

ADDRESS
Chemistry Division or Institute of
Nuclear Sciences
D.S.I.R.
Private Bag
Petone, New Zealand

AFFIL

Title	PERSONNEL	Function
Dr.	Ellis	Director, Chemistry Division
Dr.	Rafter	Director, Nuclear Sciences

AP aims and actions

Development of cheap materials for absorption of hydrogen sulphide for protection of persons and electrical/telephone installations. The DSIR also maintains Institute of Nuclear Science at Lower Hutt, New Zealand, network for continuous monitoring of isotopes of H, C, [illegible] in air and water.

Comments

NZ	005	REG	A [✓ B] C [✓ D] E [✓ F]	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	9/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Auckland Air Pollution Research Committee,

ACRONYM:

See also

ADDRESS:
P.O. Box 2225
Auckland, NZ

Tel

AFFIL
Dept. of Scientific and Industrial
Research (NZ 004)

Title	PERSONNEL	Function
Mr.	A.W. Skam	Secretary

AP aims and actions:

Ad-hoc body, coordinating local activities through its member organizations.

Conducts general surveys, including pollution from motor vehicles.

Comments:

NZ	006	REG	A [✓ B] C [✓ D] E [✓ F]	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	9/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: Christchurch Regional Planning Authority
Air Pollution Committee

ACRONYM:

See also

ADDRESS:
Regional Planning Authority
Christchurch, N.Z.

Tel

AFFIL

Title	PERSONNEL	Function
Mr.	von Tunzelmann	Secretary

AP aims and actions:

Coordinating activities of local authorities in the Christchurch region.

Comments:

NZ 002 500 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 9/71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME New Zealand Clean Air Society, Inc.

ACRONYM

See also

ADDRESS

P.O. Box 2363
Christchurch, New Zeland

Tel

AFFIL

Christchurch branch of the
New Zealand Clean Air Society, Inc.

Title	PERSONNEL	Function
Mr.	D. W. King	Hon. Secretary

AP aims and actions

Public awareness program; consists of local meetings, lectures and publications.

Comments

Affiliated with National Society for Clean Air of Great Britain (GB-101).

NZ [illegible] 500 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME Clean Air Society of Australia and New Zealand (N.Z. Branch)

ACRONYM

See also

ADDRESS

P.O. Box 2225
Auckland, N.Z.

Tel

AFFIL

Clean Air Society of Australia
and New Zealand (AUS 030)

Title	PERSONNEL	Function
Mr.	A. W. Skam	Secretary

AP aims and actions

To conserve clean air in Australia and New Zealand.

To promote liaison in technical matters between the two countries.

Comments

Parent society publishes technical reports, affiliated with Air Pollution Control Ass'n (U.S.).

NZ 009 SOC A [✓ B] C D E [✓ F] [✓ 01] 02 [✓ 03] 04 [✓ 05] [✓ 11] 12 13 [✓ 14] 15 [✓ 21] 22 [✓ 23] 24 25 31 32 [✓ 33] 34 35 L M [✓ S] 1 [✓ 2] 3 10/71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Environmental Defence Society Inc.

ACRONYM EDS

See also

ADDRESS

P. O. Box 8
Auckland, New Zealand

Tel

AFFIL

Title	PERSONNEL	Function
	I. Cowper	Secretary
Sir	Guy Powles	Patron

AP aims and actions

Preservation, restoration and rational use of the environment.

Application of existing laws and development of new legislation for environmental protection.

Comments

(Sir Guy Powles is Ombudsman in N.Z.)

NZ 010 ACD [✓ A] [✓ B] C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 8/71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME University of Auckland

Atmospheric Physics Research Laboratory

ACRONYM

See also

ADDRESS

Private Bag,
Auckland, 1, New Zealand

Tel

AFFIL

Title	PERSONNEL	Function
Dr.	R. J. Clegg	Senior Lecturer
Dr.	Spedding	Senior Lecturer

AP aims and actions

Air pollution research, includes geophysics, measuring electrical effects in the atmosphere.

Comments

NZ	011	A D	C D E F	01 02 03 04 05 11 12 13 14 15	21 22 23 24 25 31 32 33 34 35	L M S	1 2 3	4/71		S T
Country	No.	Type	Functions	Sources / Effects	Controls / Remedies	Size	Status	Date		

NAME University of Canterbury, Dept of Chemical Engineering

ACRONYM

See also

ADDRESS

Christchurch 1, New Zealand

Tel.

AFFIL.

Title	PERSONNEL	Function
Prof.	A.M. Kennedy	Head of Department
Dr.	J.B. Stott	Senior Lecturer
Dr.	J. [illegible]	Senior Lecturer

AP aims and actions

[illegible] of activated carbon produced [illegible]
[illegible] from flue gases. Development
of [illegible] in which ash is collected as [illegible]
[illegible] as [illegible] to [illegible] function.

[illegible] part of [illegible] atmospheric
distribution [illegible] concentrations.

Comments

NICARAGUA

BACKGROUND

Nicaragua is an agricultural country, with significant annual cotton and coffee crops, as well as interests in cattle, both as livestock and slaughtered. Mining is next in importance, and in recent years the fishing industry has developed to the point where it now ranks among the top five trade products of the country.

With the advent of the Central American Common Market, established a few years ago, an effort to industrialize has been planned. As a result, the consumption of electric energy (at industrial rates) more than doubled from 1966 to 1969.

Most commercial activities are based on the Pacific Ocean side of Nicaragua, with few industries of any type on the East Coast. The heart of the country is Managua, where 300,000 people or about 20 percent of the entire population of the nation live in the capital city area of 53 square kilometers. Most of the industry is located there, along with about 40,000 motor vehicles of all types. From the standpoint of volume of emissions, therefore, Managua is the principal place where the effects of air pollution would be expected to occur in the country.

At present there is no legislation specifically controlling the amount of pollution permitted in the air in Nicaragua, and spot tests in the vicinity of industrial plants have indicated negligible values. The current general regulations, enforced on special occasions, are concerned only with public nuisances such as offensive odors, dispersal of cotton dust in the air, or diesel fumes from unmodified exhausts of motor vehicles.

RELATIONSHIPS AMONG ORGANIZATIONS

Investigations of air pollution problems are conducted by the Ministry of Public Health through its Division for Environmental Health. A general NIC-01

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code, now being drafted, may establish minimum standards for food quality and for levels of water and air pollution.

The Office of City Planning has considered air pollution effects in the establishment of zoning regulations for residential areas, light industry (for clean processes), and heavy industry, built away from the residential districts. This bureau was responsible for prohibiting the dusting of insecticides from airplanes over farms near the Managua perimeter and also succeeded in removing the airfield where these planes were based, which was within city limits, thus doing away with a type of obnoxious odor. NIC-02

TRENDS

The new legislation on environmental health, now being drafted, is expected to cover air pollution control, but primarily to emphasize other forms of pollution, such as that of rivers and lakes. The Managua City Planning Board will be concerned with the location of a projected major expansion of the ENALUF power plant there, considering the balance between increased pollution blown over the city from this source and the economic aspects of more effective controls or as an alternative, relocation of the new plant.

The subject of air pollution receives relatively little public attention in Nicaragua. The news media usually relate their reports of air pollution problems to other locations, especially to heavily industrialized cities, encouraging the idea that this type of condition is unlikely to occur locally.

NIC	001	GOV	A B [✓ C] D E F	[✓ 01] [✓ 02] [✓ 03] 04 05	[✓ 11] 12 13 14 15	[✓ 21] 22 23 24 25	31 [✓ 32] [✓ 33] 34 35	[✓ L] M S	1 2 [✓ 3]	1/11/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME Ministry of Public Health

Ministerio de Salud Pública

ACRONYM

See also

ADDRESS

Managua, Nicaragua

Tel

AFFIL

Title	PERSONNEL	Function
	Alejando Jerez	Chief of Environmental Health

AP aims and actions

Administers present laws against public nuisances, to guard against general environment contamination.

Comments:

NIC	002	MUN	A B [✓ C] D E F	01 02 [✓ 03] [✓ 04] [✓ 05]	11 12 [✓ 13] [✓ 14] 15	21 22 23 24 25	31 32 33 34 35	L [✓ M] S	1 2 [✓ 3]	1/11/71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME City Planning Bureau

Oficina Nacional de Urbanismo

ACRONYM

See also

ADDRESS

Managua, Nicaragua

Tel

AFFIL

Title	PERSONNEL	Function
	Roberto Sanson	Chief of Planning Office

AP aims and actions:

Responsible for zoning scheme to separate industrial from residential areas.

Comments:

NORWAY

GENERAL AIR POLLUTION BACKGROUND

Geography

Norway is a long, thin, mountainous country with a small population (approximately 4 million), settled in a relatively few towns separated by long stretches of sparsely populated forest land or mountains. The principal towns are Oslo, Bergen, Trondheim, Stavanger, and Kristiansand.

Industrial activity is, like the majority of the population, concentrated around the Oslo Fjord: wood pulp and paper around Sarpsborg and Drammen, cement manufacture near Oslo and Skien, metallurgical facilities at Skien and Kristiansand, chemical fertilizer production at Porsgrunn, and oil refining at Slagen. On the long deeply indented west coast, there are a few large towns, some with industrial plants, such as an extensive iron works at Mo and oil refining at Stavanger. There is also considerable fish oil industry, with a characteristic odor problem.

Much of the power generated in Norway is hydroelectric. Coal mined in Spitzbergen supplies the iron works at Mo, but oil provides most of the fuel used for industry and for space heating, both commercial and domestic.

Political Features

Public pressure for clean air is very marked in Norway. Air quality conservation is the subject of frequent comment in the newspapers and elsewhere, as reflected by the activities of political parties and the government. Much argument centers on the problems of economic feasibility.

Air pollution control activities in Norway are relatively recent.
The Røykskaderådet (Smoke Control Council) was set up in 1961 to define air N.005
pollution limitations in the operating licenses of new industrial plant.
Dr. Lindberg initiated a number of air quality measurements in the Oslo
area in 1956, but public concern was not aroused until his reports, published in 1967-68, indicated a correlation between sulfur dioxide concentrations and excess mortality, a correlation widely interpreted as causal.

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In 1967, the Ministry of Industry established an Air Conservation Committee (Luftforensningsutvalget) to review matters related to air N.001 pollution and to recommend appropriate administrative and control measures. Concurrently, the Norges Teknisk Naturvitenskapelige Forskningsråd (NTNF-- N.009 Royal Norwegian Council for Scientific and Industrial Research) proposed the formation of a new national institute for air pollution (NILU--Norsk Institutt for Luftforskning), which came into being in 1969.

The effects of the initiatives in environmental conservation in Sweden, the United States, and Germany are apparent in Norway. Many official and industrial bodies have established appropriate groups specifically to deal with air pollution matters. An attitude of cooperation between the authorities and industry is evident and, in this small population, experts are often well acquainted.

Present Controls

The Sundhetsloven (Health Law) of 1860 provides a general basis for air pollution controls. It allows for action against emissions proved to be a danger to public health, but is therefore more effective after the event than in prevention. This law is administered by the local health council (Helseråd) in each of the 450 Kommune (municipal area, i.e., town and surrounding country) throughout Norway.

Under the Bygningsloven (Building Law) of June 18, 1965, the Bygnings Myndigheter (Building Authorities) of the local councils are required to consider health aspects of air pollution when preparing building and zoning proposals for large or small areas. They are also required to take any special pollution problems into consideration when granting buildings licenses for new industrial plants.

At present, the Granneloven (Neighbor Law) of June 16, 1961, contains the principal provisions in Norway for the control of air pollution in terms of the protection of private health and property. Under this law, each new industrial enterprise (i.e, constructed since 1962) is required to have from the Smoke Control Council (Røykskaderådet) an operating license, defining stack heights, maximum emissions, and so on--but the law is not retroactive and it does not apply to works existing before the law was enacted. The principal provisions and modus operandi of the Granneloven as it affects air pollution are described in Appendix A.

Thus, local authorities control pollution incidents under the Sundhetsloven as regards public health or under the Granneloven as regards private health or property. Potential pollution from new installations is regulated through operating licenses obtained from the local Bygnings Myndigheter, the local Helseråd and the central Røykskaderådet. Exchange of views and the recognized expertise of the last of these bodies avoid conflict of requirements imposed.

Operating requirements are defined essentially on the basis of the experience of the officials concerned, especially in the Røyksdaderådet. Each case is assessed on its merits; there are no national criteria or standards. Requirements are defined in terms of the type of equipment, not ground level concentrations. Licenses can be updated as new technology and control feasibility develop but within a framework of what is reasonable and economically possible in that branch of industry. A pragmatic and rather informal approach to controls is characteristic in Norway.

The Vegtrafikloven (Road Traffic Act) of June 18, 1965, provides for the prevention of smoke emissions from vehicles of all types. The limits are not very stringent (max 70 Hartridge: 5.5 Bosch), and surveillance is not strict.

More recently, on June 19, 1970, following the first report of the N.001 Luftforurensningsutvalg (Air Conservation Committee), a framework law was enacted, enabling local authorities to propose limits on emissions from oil fuels. In accordance with this law, Oslo Municipality introduced, on November 1, 1970, a local regulation requiring installations consuming less than 700 tons per year of oil fuel, as well as all municipal and government installations, to use fuels containing less than 0.8 percent sulfur and no residuum. For all other installations, the maximum is 2.5 percent sulfur.

In the 1971 National Budget a tax on mineral oils was introduced. Besides increasing state revenue, the tax is to penalize sulfur content in order to reduce air pollution; each 0.5 percent increment of sulfur content over 0.5 percent adds a further tax of 0.2 øre per liter.

Trends

Because the whole field of air pollution is still being reviewed by Luftforensningsutvalget (the Air Conservation Committee), further proposals can be expected. The idea of a central ministry for all environmental affairs (Miljøverndepartementet) is being considered. N.001

Action can be expected on the second proposal of the Luftforurensningsutvalg that older plants shall also be licensed by the Røykskaderådet (Smoke Control Council). N.005

Other towns may follow Oslo's lead in placing limits on the sulfur content of oil fuel. Drammen has made such proposals to Industridepartementet (Ministry of Industry).

There is a possibility that the ECE model regulations on vehicle emissions may be adopted in Norway. This possibility would be strengthened if Norway joins the European Economic Community.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

Luftforurensningsutvalget (The Air Conservation Committee) was set up by the Industridepartementet (Ministry of Industry) in 1967 to review the whole field of air pollution in Norway. It is required not only to make proposals for the reshaping of the control structure but also to recommend such regulations or changes in the law as may be appropriate. The first report of this Committee was presented on April 26, 1969. It proposed a framework law to give local authorities powers to restrict the use of--or otherwise control the emissions from--oil fuels. This law has been enacted. The second report, of January 8, 1970, proposed that the older industrial plants should be brought under the licensing controls of the N.001

Røykskaderådet; action is still pending. N.005

The Røykskaderadet (Smoke Control Council) was established under the Granneloven (Neighbor Law) and, as can be seen from Appendix A, it is the central administrative group for industrial air pollution control in Norway at present. It is authorized to decide most of the applications for industrial operating licenses insofar as air pollution is concerned. The Neighbor Law also provides that the Council, in addition to questions of permits, can be given other tasks relating to the prevention of air pollution; for example, it worked out and put into effect a special operational control system for Norwegian aluminum plants. The Røykskaderådet has six members, representing the legal profession and the interests of health, agriculture and industry. N.005

The Helsedirektorat (Health Directorate) of the Ministry of Municipal Affairs and Labor is responsible for national policy on the health aspects of air pollution and advises the Helseråd (Health Board) in each Kommune (local authority area) on these matters. The Helseråd, whose head is usually the district medical officer, is responsible for communal health and is expected to become increasingly concerned with local air pollution matters. N.002

The Oslo Helseråd (Oslo Health Board) is particularly active in air pollution control work. It is also unique (so far) in having an officer, Mr. R. Os, specifically nominated for this work. Under his initiative, measurements of smoke and sulfur dioxide are made in the Oslo area, in cooperation with the Oljeselskapenes Miljøvernutvalg (Oil Companies' Environmental Conservation Committee). N.029

Occupational hygiene aspects of air pollution are the responsibility of the Yrkeshygienisk Institutt (Institute of Occupational Hygiene of Oslo University) and of the Statens Arbeidstilsyn (State Labor Inspectorate), which operates under the direction of the Kommunaldepartementet (Ministry of Municipal Affairs and Labor). The national Helsedirektoratet and local Helseråd are also affiliated with this ministry. N.041 N.004

The most important national and international research group in
Norway is NILU (Norsk Institutt for Luftforskning--Norwegian Institute N.010
for Air Research). Established in 1969 to undertake and coordinate work
on all aspects of air quality, this organization conducts surveys of ambient
pollution, often in conjunction with local authorities (Kommune
and Fylke), as in the industrial area of Nedre Telemark, where local
authorities and industry have combined in a Kontrollutvalg (Control N.015
Committee). NILU also measures industrial air pollution for Røvkskaderådet
(Smoke Control Council) to assist in licensing activities.

The NILU staff provides expert representatives for Nordforsk and for
OECD's Air Management Research Group. It is supported on a budget from X.016
NTNF (Norges Teknisk Naturvidenskapelige Forskningsrådet--Royal Norwegian X.005
Council for Scientific and Industrial Research), which has now passed its N.009
responsibilities for air quality conservation to NILU.

In the field of abatement technology, the Gassrensegruppe (Gas N.012
Purifying Group) is predominant in Norway. This group of about seven
engineers, located at the Norges Tekniske Høgskole, Trondheim, studies
industrial pollution abatement methods, makes flue gas analyses, and provides
an advisory service on Norwegian industry and government. It is a
part of SINTEF (Selskapet for Industriell og Teknisk Forskning--Society
for Industrial and Technical Research), a large organization conducting
research in a wide industrial area. Financial support comes from commissioned
work and from NTNF, which also provides technical guidance (in N.009
contrast to NILU, which relies heavily on internal expertise). N.010

A number of professional and industrial groups have committees active
in air pollution. Besides the Oljeselskapenes Miljøvernutvalg (Oil
Companies' Environmental Conservation Committee), already mentioned, the
Norges Industriforbundet (Norwegian Industry Association) has both a discussion N.026-7
group and a practical group for environmental conservation. Subgroups
deal with the problems of individual industries (e.g., cement,
metallurgy, fish oil). Technical opinions concerning licensing problems

are exchanged with the RøykskaderÅdet. Den Norsk Dampkjelforening N.005
(Norwegian Steam Boiler Owners Association) has a small group to study N.028
and develop advice on boiler and burner operation to minimize pollutant
emissions. The major chemical fertilizer company, Norsk Hydro, is also N.035
very active in combatting air pollution in and around its own area at
Porsgrunn.

Dr. W. Lindberg, assistant professor at the Hygienisk Institutt, N.050
Oslo Universitetet, has undertaken air quality measurements in correlation
with morbidity in various Norwegian towns and industrial areas since 1956.
His findings, published in 1968, provide the basis for much of the current
opinions about air pollution in Norway. He is a Norwegian representative N.002
in the work of Nordforsk and is technical adviser to the RøykskaderÅdet. N.005

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 9 1

Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible] Committee

ACRONYM

See also

ADDRESS [illegible]

AFF [illegible]

Title	PERSONNEL	Function
	A. L. [illegible]	Chairman
	Håkon Børresen	Secretary
	members [illegible]	

All area and actions

Comments

[illegible]

[illegible] report expected end-1-71.

[illegible] 4.71

[illegible] 4.71

[illegible]:

[illegible]

N [illegible] A B C D, E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S Y 2 3 [illegible].76 S 7
Country No. Type Functions Sources Effects Controls Removals Size Status Date

NAME [illegible]
Health Directorate

ACRONYM
See also [illegible]

ADDRESS [illegible],
[illegible].

Tel [illegible]

AFFIL [illegible]
[illegible] of Social Affairs

Title	PERSONNEL	Function
Mr.	Karl [illegible]	[illegible]
Dr.	[illegible]	[illegible] adviser for [illegible]

AP aims and actions
[illegible] health [illegible] on AP, and to advi[illegible]
[illegible].
[illegible].

Comments

[illegible]ratet

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 [illegible] 31 32 33 34 35 L M S Y 2 3 [illegible] S [illegible]
Try. No. Type Functions Sources Effects Controls Removals Size Status Date

NAME [illegible]TORATET
[illegible] Administration

ACRONYM
See also

ADDRESS [illegible],
[illegible]gate 4,

Tel [illegible]

AFFIL Min. of Transport
([illegible]).

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions
[illegible].
[illegible]
[illegible] traffic [illegible]
[illegible].

Comments

N. [illegible]vegdirektoratet

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]
[illegible]ntrol Council

ACRONYM

See also N.001

ADDRESS [illegible],
[illegible]gaten [illegible]

Tel. [illegible]

AFFIL [illegible]departement[illegible]
[illegible] Industry.

Title	PERSONNEL	Function
	T. Holm[illegible]	head of secretariat
	+ [illegible] engineers + 1 lawyer.	
	Members of Council listed over.	

AP aims and actions

[illegible] control plans [illegible]
[illegible], [illegible] operation [illegible]
[illegible], [illegible]control, emissions,
[illegible] requirements.
[illegible] measurements from
[illegible] from other institutes
[illegible]
[illegible] Industridepartementet.

Comments

[illegible] up by Royal Decree 29 Dec. 196[illegible].
Members meet approx. monthly. (Have other responsibilities).
[illegible] sub-group for control of Al Industry.

[illegible] 4.71 X

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.71 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]
[illegible]

ACRONYM N T N F

See also N.01[illegible]

ADDRESS [illegible],
[illegible].

Tel. [illegible]

AFFIL [illegible]
[illegible].
[illegible].

Title	PERSONNEL	Function
	Robert M[illegible]	administrative director
	[illegible] members	[illegible]
		11 industry
		11 academic and research organ[illegible]
	Working [illegible].	

AP aims and actions

[illegible] and support [illegible] research effort.
[illegible] own committee for AP research on [illegible]
[illegible] but now
delegated AP responsibility [illegible] (N.010).

Comments

[illegible]nded 1946 as independent body.
[illegible] formal Norwegian member of Nordforsk (X.0[illegible]) but delegates actual responsibility to others (eg NI[illegible]).

N. [illegible] N T N F 4.71

N	010 NAT	A ~~B~~ C ~~D~~ E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	~~L~~ M S	~~1~~ 2 3	[illegible].70 S 1
Country	No Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME NORSK INSTITUTT FOR LUFTFORSKNING

Norwegian In[illegible]titute for Air Research

ACRONYM N I L U

See also N.00[illegible]

ADDRESS [illegible],
Postboks 15.

Tel [illegible] 71.41.70

AFFIL [illegible] (N.009).
[illegible]
[illegible]).

Title	PERSONNEL	Function
Dr.	Brynjulf Ottar	director
	J. Nordø	meteorologist
	+ 35 F/E	

Controlled by Advisory Board (see over).

AP aims and actions

[illegible] study:-
[illegible] measurement of air AP,
[illegible] and dispersion,
[illegible],
[illegible] AP,
[illegible] measures.
[illegible] effects on [illegible].
[illegible] work, partly [illegible] of others - leading
[illegible].

Comments

Set up mid 19[illegible].
Taken over from NTNF [illegible]
including common [illegible] work.
Works closely with [illegible] (X.004).

N.010 N I L U [illegible].70

N.010 Norsk Institutt for Luftforskning [illegible]

Advisory Board (elected every 2 years, half each year) as [illegible] committee:-

[illegible]	Chairman	•Oslo Municipal [illegible]
[illegible]		•[illegible]direktoratet [illegible]
[illegible]		Røykskaderådet [illegible]
[illegible] Nielsen		•Norsk Hydro (N.[illegible])
Vacant		Meteorologisk Institutt
[illegible]		•As Univ.

• Communes, Health and Industry must always be represented.

N [illegible] INT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.70 S 1

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible]

ACRONYM

See also

ADDRESS [illegible],
[illegible].

Title	PERSONNEL	Function
Dr.	[illegible]	[illegible]
	[illegible]	

Tel [illegible]

AFFIL [illegible] & the [illegible].
[illegible].
[illegible] & [illegible].

AP aims and actions

[illegible]

Comments

[illegible] from [illegible] work and by [illegible] from NTNF (N.[illegible]). [illegible]

[illegible], large organisation - wide area of ind. and tech. research - tech. advice from NTNF.

N.[illegible] [illegible] .70

N [illegible] INT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S 1

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] I NEDRE TELEMARK

[illegible] committee for AP in Lower Telemark

ACRONYM

See also N.010 N.[illegible]

ADDRESS [illegible],
[illegible] gate 4

Title	PERSONNEL	Function
Dr.	[illegible]	Secretary
Dr.	H. Tjønn	Medical Officer for area.
Dr.	W. Lindberg	Oslo Univ.
Siv.Ing	E. Thurmann Nielsen	Norsk Hydro.
	[illegible]	

Tel [illegible]

AFFIL

AP aims and actions

Have [illegible] years measurements of dust, smoke and [illegible].

Comments

Local activity involving local communes and industry and Fylkesrådmannet (N.[illegible]). Some help from NTNF (N.010).

N.011 Kontrollutvalg for Luftforurensning i Nedre Telemark .70

CRS APU A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.70 S 7

Functions Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also [illegible]

ADDRESS [illegible]

Tel. [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
	[illegible]	
Dr.	W. [illegible]	
	[illegible]	

AP aims and actions

[illegible]

Comments

[illegible]

[illegible] 6.70

A B D E F 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S 7

Controls Remedies Size Status Date

NAME [illegible]

ACRONYM

See also [illegible]

ADDRESS [illegible]

Tel. [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Secretary

AP aims and actions

[illegible]

Comments

[illegible] Industry's [illegible] individual industries.

[illegible] .70

N [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible].70 S 7

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME	NORSKE INDUSTRIFORBUNDS MILJØVERNKONTOR Norwegian Industry Association's Environmental Conservation Office	ACRONYM See also N.00[illegible]
ADDRESS	Postboks 2[illegible], Oslo 3.	
Tel	[illegible]	
AFFIL	[illegible] Norwegian Industry	

Title	PERSONNEL	Function
Siv.Ing	A. Øverdrup	director
	+ 2 P (one each WP and AP).	

AP aims and actions

[illegible] and assistance for Norwegian industry [illegible] problems, [illegible] abatement.
[illegible] contact with authorities of pollution abatement [illegible] quality.

Comments

Practical partner for Miljøvern-[illegible] (N.0[illegible]).
Maintains contact with Norwegian research institutes in A & WP.

N.007 Norske Industriforbunds Miljøvernkontor [illegible].70

N [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible].70 S 7

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME	NORSK DAMPKJEL FORENING Norwegian Steam Boiler Owners Association	ACRONYM N.D.F. See also
ADDRESS	[illegible] 1[illegible], Oslo [illegible]	
Tel	[illegible]	
AFFIL		

Title	PERSONNEL	Function
Siv.Ing	G. Hartm[illegible]	director
Siv.Ing	A. Steinsv[illegible]	for AP
	+ 1 E / 1 AE for AP.	

AP aims and actions

Check-up of steam boilers and burner control measures to minimize AP.
Measurements of ambient AP and emissions for member co's and others on commission.

Comments

N.008 Norsk Dampkjel Forening [illegible].70

N [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 1 M S 1 2 3 [illegible],76 S

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible] Companies' Environmental Conservation Commi[illegible]

ACRONYM

See also

ADDRESS Company address of current chairman.

Tel

AFFIL Member oil companies: [illegible]

Title	PERSONNEL	Function
	A. [illegible]	Chairman
	K. Kristiansen	Vice-chairman

AP aims and actions

To keep informed on [illegible] problems [illegible], and to recommend [illegible].

[illegible]

Comments

[illegible]

PERU

Air pollution problems in Peru that are related to mining and metallurgy occur in the upland valleys of Ilo and Tambo, as a result of cement manufacture, and in the vicinity of La Oroya, with the emissions of sulfur dioxide and arsenic. An additional source of complaints is the odors from the fish industry along the coast, which includes the largest fish processing plants in the world at Chimbote and Callao. The usual problems connected with urban and industrial growth also are found there. While no specific laws or regulations regarding air pollution are in force, efforts are being made to apply available methods of control.

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SINGAPORE

BACKGROUND

Strategically located in the South East Asian region, Singapore (226 square miles) consists of the Island of Singapore and some 54 small islands within its territorial waters. Though the economy of the country was originally based on trade and commerce, industrialization, urban population growth and an increase in the number of motor vehicles have, during the past decade, brought about the attendant problems of air pollution.

Seventy-five percent of the population of over 2 million is concentrated within a prosperous city area of about 40 square miles. There are 276,000 motor vehicles on 1200 miles of roads (in 1970), and high traffic density in the city causes congestion and traffic jams. Industrial activity is located mainly in a number of industrial estates in different parts of the country.

Surrounded on all sides by sea, Singapore's climate is essentially equatorial, with uniformly high average daily temperature and relatively high humidity. Two monsoons bring rain all the year round. There are a few temperature inversions, which are of very short duration. Chances of general, high-concentration build-up of air pollutants are low.

The country has almost no natural resources. Coal is used in minimal quantities, and households do not require central heating. Power is supplied by burning of fuel oil, which is the main source of sulfur dioxide emissions. Singapore is also rapidly becoming the largest crude oil refining center in South East Asia.

Present Controls

Official concern about air pollution started in early 1970, when the government initiated a campaign against smoky motor vehicles. This effort was supported by the public and soon led to an interest in combatting

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industrial air pollution. During this campaign, an Anti-Pollution Unit was established under the direct jurisdiction of the Prime Minister's Office, to initiate national air monitoring, formulate policies and prepare legislation on air pollution control. SGP-01

Though there are no specific laws and regulations on air pollution in Singapore at present, they are being drafted and will soon be promulgated. Claims of nuisance can be made by individuals under an Environmental Public Health Act of 1968, and action on such claims can be taken by the Commissioner of Public Health. Enforcement under this Act is difficult, however, because no emission limits are established.

Smoke emissions from motor vehicles are governed specifically by a 1970 amendment to the Road Traffic Act. Enforcement is strict, and during the first year action was taken against many vehicles for emitting excessive smoke. Similarly, under the Port Regulations, enforcement measures can be brought into effect against ships lying in the harbors, for causing excessive smoke emissions. Other sources to be controlled include steel mills, brick works, and sawmills, which produce and burn wood wastes.

Trends

Growing public concern about air pollution is indicated by numerous complaints, both in the newspapers and in direct statements to the government departments. The government has a strong interest in making Singapore clean and pollution-free and has organized a yearly national campaign on the basis of this theme. Tax benefits are used to promote new technology and cleanliness in new industries. Response from industry has been favorable, indicating the social consciousness of this sector of the economy towards the community.

Government agencies for economic development, land development and planning are also increasingly conscious of the problems of air pollution. These agencies have started to take into consideration the air pollution factor in formulating their policies.

RELATIONSHIPS AMONG ORGANIZATIONS

SGI-01

The newly established Anti-Pollution Unit is the most significant body in Singapore's air pollution control activities. It is responsible for national air monitoring, formulating government policies, and preparing new laws and regulations. When the laws are passed, enforcement will also be by this Unit, which also advises the government to some extent on water and sea pollution. It works closely with other government and public organizations on all technical and policy matters involving pollution control. These organizations and their areas of primary interest include:

Planning Department:	state and city planning
Economic Development Board:	promotion of industrial activities
Jurong Town Corporation:	allocation and development of industrial sites
Public Utilities Board:	surveys of air pollution from power generation
Port of Singapore Authority:	sea pollution
Public Works Department:	water pollution in sewage treatment
Public Health Division:	water pollution and environmental health
Meteorological Services:	meteorology in air pollution control
Registry of Vehicles:	air pollution from motor vehicles

Several advisory and working committees for dealing with pollution problems have been formed. They usually consist of representatives from government and public organizations and, sometimes, from private organizations with an interest in pollution problems.

SGP 001 GOV A B [✓ C] [✓ D] [✓ E] F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 [✓ L] M S [✓ 1] 2 3 7/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Anti-Pollution Unit of Prime Minister's Office

ACRONYM

See also

ADDRESS
c/o National Development Building
Maxwell Road
Singapore 2
Republic of Singapore

Tel 310044
AFFIL

Title	PERSONNEL	Function
	Lee EK Tieng	Head
Dr.	Chua Yong Hai)	
	Phang Pui Yeong)	Senior Officers
	David John)	

AP aims and actions

Surveillance and routine monitoring for SO_2, smoke, settable dust; will add CO.

Formulate policies on all aspects of air pollution.

Prepare legislation and set up regulations.

Enforce regulations when promulgated.

Comments

SGP 002 ACD [✓ A] [✓ B] C [✓ D] E F 01 [✓ 02] [✓ 03] [✓ 04] 05 11 12 13 14 15 21 [✓ 22] 23 [✓ 24] 25 31 [✓ 32] 33 [✓ 34] 35 L M S 1 2 3 7/71 S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME University of Singapore
Faculty of Engineering

ACRONYM

See also

ADDRESS

Singapore 10

Tel 50451
AFFIL

Title	PERSONNEL	Function
Dr.	Chin Kee Kean	Dean of Engineering

AP aims and actions

Conducts engineering research and private surveys on air pollution control.

Comments

SPAIN

GENERAL AIR POLLUTION BACKGROUND

Geography

The Iberian peninsula, shared by Spain and Portugal, is not only itself largely mountainous but is also separated from France and the rest of Europe by the Pyrenees mountain range. Consequently, communications there are not easy, and, historically, Spain has tended to be isolated from many European developments, including industrialization. The climate varies widely from one region to another: rainy in the north, sunny on the Mediterranean coast, and cold in the inland mountainous zones. The country has a population of 33 million; the largest cities are Madrid (3.3 million), Barcelona (2.2 million), Valencia, Seville, Saragossa, Bilbao, and Malaga.

Mineral resources are varied but not extensive. Metals include copper, mercury and lead; there is some iron and coal. Oil has had to be imported until now, but recent discoveries of oil reserves in the Ebro River region have raised considerable expectations. A large proportion of electricity generation depends on water power.

Although Spain has long coastlines, there are only a few important harbors. Agriculture has for centuries been the main economic asset, but, in the last decade, industrial development has been intensive. The steel industry has expanded, as have shipbuilding and vehicle manufacture. The chemical industry, including oil refining and chemical fertilizers, has seen the largest growth, however. Tourism is also an important factor.

Political Features

The Civil Governor in every province in Spain is the highest local authority, except for military emergencies. He is responsible to the Minister of the Interior (Min. de Gobernacion), and local representatives of the other Ministers, such as Public Health, Social Assistance, and Traffic, all report to him.

There is wide concern in Spain about air pollution, with much discussion. Newspapers of the 50 provinces regularly devote articles to the environmental problem (air, sea, rivers, landscape); the government-owned television network is campaigning constantly for "Keep Spain Clean." The most dramatic interest is centered in Madrid, Barcelona and Bilbao, all overcrowded with industries and vehicles. Attention is directed largely against the three main sources of air pollution: vehicles, domestic heating, and industry.

Present Controls

The regulations on Industrias Molestas, Insalubres, Nocivas y Peligrosas (Nuisances, Unhealthy, Noxious and Dangerous Activities), contained in the Decree of November 30, 1961, prescribe that industries emitting fumes, dust and grit, haze, steam or gases must equip their plants with devices to precipitate the particulate matter or to wash the steam or gases. The Decree also defines the maximum concentration limits allowed inside industrial works, requiring that the premises of this type of industry should be located 2 kilometers beyond the limits of a town.

The Decree of August 16, 1968, empowers Municipal Authorities to adopt any necessary measures to avoid unpleasant, noxious, unhealthy or dangerous effects of air pollution and provides for the punishment of offenders. General conditions are specified and the issue of new operating licenses requires thorough examination. In accordance with this Decree, local municipal councils are required to establish maximum levels of noise, dust, smoke and gases, and to ensure the proper operation of home heating and hot water generators, mechanically propelled vehicles and other sources of such pollution.

The Decree of November 7, 1968, gives special attention to cement plants, limiting the emission of dust content to 0.8 grams per cubic meter. Under no circumstances may the total emission exceed 50 kilograms of dust per hour for each stack of chimney.

An ordinance to combat air pollution in the Madrid area was issued by the Madrid Municipal Council and approved by the Ministry of the Interior (Gobernacion) in July 1968. It deals with industrial emissions, hot water and home heating furnaces, and motor vehicles in that city. The office in charge of these matters is the Madrid Servicio contra la Contaminacion Atmosferica (Air Pollution Fighting Service), which is linked with the Madrid Delegacion de Saneamiento y Limpieza (Hygiene and Urban Cleaning Service).

E.010

The following limitations are in force in Madrid:

Home heating furnaces:	
Smoke emissions:	
particulates	1.2 grams per 1000 k. cal
capacity	6 Bacharach (equivalent to 2 Ringelmann)
Sulfur dioxide emissions:	
solid fuels	0.25 percent volume maximum
liquid fuels	0.20 percent volume maximum
Sulfur limits for fuels:	
liquid fuels, industrial uses	3.0 percent weight
liquid fuels, domestic uses	2.6 percent weight
solid fuels	4.0 percent weight
(and volatile matter 15 percent maximum)	
Vehicles:	
diesel engines, smoke	64 Hartridge units, maximum
gasoline engines, CO	3 percent maximum at cruise 8 percent maximum at idle

In Barcelona, a Commission was established on July 23, 1967, with the same responsibilities and authorities as that of the Madrid City Council.

Administration

Industrial operating licenses are issued by the Ministry of Industry, subject to consultation and advice from the central Permanent Subcommittee [illegible] for Nuisances, Unhealthy, Noxious, and Dangerous Activities. This ministry [illegible] a subgroup of the Central Commission for Hygiene of the Ministry of the [illegible] Interior, also carries out periodical inspections.

In every province, there is a Comision Provincial de Servicios Tecnicos (Provincial Commission of Technical Services) that acts through a Comision Delegada de Saneamiento (Delegate Commission of Hygiene), which was established by the Decree of December 26, 1968. Participating in decisions are delegates of various ministerial departments, including the official representatives of Health, Labor, Finance, Industry, Housing, Public Works, Agriculture, Information, Tourism, and Traffic. This body is presided over by the Civil Governor of the province.

In each province, any corrective measure to avoid pollution is coordinated and implemented by the Municipal Council in the bigger cities, and elsewhere by the local Diputacion, which is responsible for government outside the cities. In this respect, Madrid is far ahead of the other Spanish provinces by reason of its population density, number of vehicles, and industrialized outskirts.

Finance

Industrial plants are required by law to adopt the best practicable means to avoid the emission of grit, fumes, dust, smoke, and gases. As the investment required for these preventive devices can increase the total cost of installations by between 5 and 15 percent, the Ministry of Industry has, to partly reduce this additional expense, established priority sectors of production for which official credits are granted "for installation of cleaning devices for air and water contaminants."

Trends

The government is aware that much needs to be done for environmental conservation. In the Third 4-Year Development Plan beginning in 1972, coordinated official action is intended. Different ministries and municipal authorities have initiated individual actions and issued bills, but Spain needs, and has under study, a National Plan for combatting contamination of all sorts. A central and independent Department is being considered "in order to establish medium and long term strategies to fight against the growing consequences of progress."

Proposed Controls

In order to limit carbon-monoxide and diesel-engine smoke emissions from vehicles, the Ministry of Industry produced a law in May 1971 to be in force for new model cars from July 1, 1972, and for present model cars from July 1, 1973, requiring that motor vehicles should be constructed so that no avoidable smoke or visible vapors are emitted. In regard to this law, Spain is consistent with other European countries. Further limitations are expected on solid and liquid fuels for domestic use.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

Pollution problems in Spain are coordinated at present mainly through the Comision Central de Saneamiento (Central Commission for Hygiene), E.00[illegible] which reports to the Subdireccion General de Poblacion y Saneamiento (General Subdirectorate for Population and Hygiene) of the Ministry of the Interior. This commission operates through subcommittees, one of which is the Subcomision Tecnica de Actividades (Technical Activities Subcommittee) (a short name for the Subcomision Permanente por Actividades Molestas, E.004 Insalubres, Nocivas y Peligrosas). Its responsibilities are:

1. To determine hygiene projects and programs for the provinces, establishing priorities according to local circumstances or needs;

2. To dictate general regulations for the improvement of sanitary conditions of water supply, sewage, waste, etc.;

3. To coordinate related actions of provincial technical commissions.

Investigations of industrial emissions and measures for their abatement are the responsibility of the Comision Tecnica Asesora de Problemas de E.005

Contaminacion Atmosferica de Origen Industrial (Technical Advisory Commission on Air Pollution from Industrial Sources). This interministerial body is presided over by the Minister of Industry. Members of the Commission represent many offices: Navy, Health, Traffic, Safety at Work, Hygiene, Mining, Fuel and Power, Chemical Industries, Nuclear Energy, Agriculture, Air Meteorology, Housing, the Petroleum Monopoly (CAMPSA), and Trade Unions.

The Advisory Commission was set up in 1969 to coordinate information on air pollution, its diffusion and dispersion, and means of avoiding or abating it. The Commission also establishes measuring methods and techniques, as well as permissible limits.

As the Commission makes specific studies of the problems posed by certain industries, there are eight Working Groups in the Commission, each in charge of a specific group of related activities. It also has a service group for developing methods of air sampling and analysis, working with representatives of each of the following areas of interest as required.

1. Industries handling or burning solid fuels (coal, coke).

2. Industries handling liquid fuels (refineries, waste combustors).

3. General transportation (vehicles, ships, planes).

4. Foundries, steel works, and industries in which metals (iron, lead, zinc, aluminum) are melted and cast.

5. Raw materials for chemicals (soda, chlorine, sulfuric acid).

6. Chemical products (fertilizers, paper mills, carbon black, pharmaceuticals).

7. Construction (cement plants, quarries, wood sawings).

8. Electrical power stations (thermal, nuclear).

Pending the proposed establishment of a central department specifically
for conservation matters, a Comite Interministerial del Medio Ambiente E.002
(Interministerial Committee for the Environment) was recently set up under
the Presidencia del Gobierno (Presidency of the Government). This committee
is developing its responsibilities, one of which is contacts with OECD. X-003-4

Surveys of vehicle emissions and methods for their control are under
the jurisdiction of the Direccion General de la Jefatura Central de Trafico E.006
(General Directorate of the Central Traffic Service). This department also
coordinates provincial and local activities in this area.

The Servicio de Sanidad Ambiental (Environmental Health Service), a E.030
branch of the Escuela Nacional de Sanidad (National School of Public Health),
was established in 1962 to serve as a training center for provincial advisors
conducting surveys of air pollution.

The central organizations already mentioned conduct their basic
activities at the local level through Comisiones Provinciales de Servicios
Tecnicos (Provincial Commissions for Technical Services) and Jefaturas
Provinciales de Sanidad (Provincial Offices of Health), and working with
them, through the Ayuntamientos (Municipal Councils), utilizing their laboratories
and teams of professional, technicians and advisors. Madrid and E.
Barcelona, which understandably have special major problems, have already
appointed Commissions for conducting studies and for planning methods of E.012
preventing air pollution. Seville and Bilbao also have similar organizations. E.011-14

SWITZERLAND

GENERAL AIR POLLUTION BACKGROUND

Geography

Switzerland is a small country of 6.3 million inhabitants where a generally mountainous terrain has profound effects both on social and technological matters. Valley communities guard their local autonomy but may be disporportionately affected by local emissions of air pollutants.

Industrial activity is concentrated in the flatter terrain, especially in the north and west. Zürich is the largest and most industrialized town (population .75 million); Berne, the seat of the federal government, is smaller (population .25 million). Other principal industrial towns are: Basel, Geneva, Lausanne, Winterthur, Lucerne, Biel/Bienne and St. Gallen. In the absence of significant mineral resources, Swiss industry concentrates on high value machinery and instruments (ranging from diesel engines to watches) and on chemicals (such as pharmaceutical products and synthetic textiles). In heavy industry there are important cement manufacture and a few steel mills. Energy is mainly derived from hydroelectric power (14 percent in 1970, but fully exploited) and oil (78 percent), the latter largely light fuel oil for space heating. Nuclear power generation (1 percent in 1970, 2 percent estimate in 1971) is increasing; national policy is that no more fossil fuel power stations will be built.

Political Features

Politically, Switzerland is a confederation (Eidgenossenschaft) of 22 Kantone/Cantons/Cantoni,[*][ϕ] each of which retains its historical autonomy and local traditions of government, and this situation affects the national activity in air pollution control. The smallest political unit is the Commune. In most cantons, a number of communes are grouped into an Amtbezirk (districts) for administrative convenience. The public referendum plays an important part in politics; contentious federal legislative proposals may be challenged and must then be submitted to a national referendum.

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[*] The cantons are: Zürich, Berne, Lucerne, Uri, Schwyz, Unterwalden, Glarus, Zug, Fribourg, Solothurn, Basel, Schaffhausen, Appenzell, St. Gallen, Grisons, Aargau, Thurgau, Ticino, Vaud, Valais, Neuchâtel, Genève.

[ϕ] Three languages are significant: German, French, and Italian. They predominate respectively in the north, west, and south of the country.

Present Controls

National

Federal initiative in coordinating control of environmental pollution has, until recently, been limited by the constitutional position of the Federal government and the cantonal prerogative in legislative matters. However, an amendment to the Constitution, to enlarge the Federal authorities' competence to enact legislation for environmental conservation, has now been approved by both Chambers and by the necessary public referendum. New laws are in preparation (see Trends, below) but have not yet been enacted.

For the present, outside the good neighbor provisions in the Civil Code, there are no specific air quality conservation laws. The Bundesgesetz Über die Arbeit in Industrie, Gewerbe und Handel (Federal Labor Law in Industry and Commerce) of 1964, hoever, requires that all employers protect the health of their workers and of the local population with every modern means. These provisions have been used to regulate emissions from the oil refineries constructed in Switzerland in recent years. For example, tolerance limits were fixed for the emission of sulfur dioxide, and the Eidgenössiche Arbeitsinspecktorat (Federal Labor Inspectorate) ensures compliance.

Proposals for new or modified plants are submitted to the local commune and then to the cantonal authorities for examination in consultation with the Arbeitsinspektorat, against Federal and Cantonal requirements. Proposals must include reference to local nuisance potential and to storage facilities for health-hazardous materials. Failure to conform to license requirements can, ultimately, lead to official closure of the plant

The Eidgenössische Kommission für Lufthygiene (EKL--Federal Clean Air Commission) has issued a Directive for the Evaluation of Sulfur Dioxide Immissions, in which recommendations for seasonal maximum sulfur dioxide values, in parts per million, are given:

	Summer	Winter
Daily average:	0.2	0.3
Half-hour average:	0.3	0.5

These recommendations have no legal standing but are widely used by the licensing authorities as guidelines.

Equally without legal backing, the Schweizerische Normen Vereinigung (Swiss Standards Association) issues specifications for fuel quality that are respected by suppliers. Reductions in the sulfur content of various grades of oil fuels have been agreed to, taking effect in July 1971. CH.010

As regards vehicle emissions, an Ordinance of August 27, 1969, established limits for carbon monoxide from gasoline engines and for smoke from diesels, with effect from January 1970 for new vehicles and January 1971 for vehicles up to 5 years old. In addition, the lead content of gasoline is regulated by an Ordinance which also controls such matters as additives in foodstuffs, but there are proposals to transfer all similar regulations to a new toxicology law (see below).

Local

In addition to the Federal regulations for industrial activity, a number of cantons also have ordinances for air quality conservation. Thus, Basel can require that specific remedial measures be taken to abate a nuisance due to dust, smoke, or smells.

Other cantons, such as St. Gallen and Valais have calculated necessary stack heights and set sulfur dioxide limits for power plants and refineries in their areas, requiring low-sulfur fuels to be burned during unfavorable weather conditions. Generally, however, the cantons can base action for conservation only on the need to maintain public health.

Administration

Application of all conservation regulations has been (and for many regulations is likely to remain) the responsibility of the appropriate Cantonal government, with the aid of their cantonal laboratory and of the Federal Labor Inspectorate--who can in turn call for assistance from the federal Arbeitsärztlicher Dienst (Occupational Hygiene Service).

Trends

Current Interests

General interest in environmental conservation is high in Switzerland, a country very conscious of its tourist attractions. Press articles are frequent, but there is apparently a broad government desire to progress cautiously and to develop optimum action.

In a basically clean environment as found in Switzerland, attention focuses more closely on specific aspects of pollution, notably odors, smoke and sulfur oxides from domestic oil-fired space heating devices, the lead and benzene content of gasoline, and noise. Some problems, especially fluorides from an aluminum smelter and cement dust, receive particular attention at the cantonal level. Diesel vehicle smoke, especially in road tunnels, is of concern for its odor and effects on visibility. Water pollution, however, is raising increasingly serious problems.

Proposed Controls

The complexity of the present distribution of responsibilities among the Federal, Cantonal and Communal authorities was recognized as impairing the effectiveness of environmental conservation measures. The Federal Clean Air Commission drafted new laws that would have the effect of coordinating and centralizing conservation measures. As the proposed legislation intruded upon the historical field of Cantonal competence, however, it was necessary to change the Swiss constitution, with approval by popular referendum.

Two new conservation laws are in preparation: an Algemeine Gesetz für Lufthygiene (General Law for Air Hygiene), which will protect the general population against air pollution and noise (not expected to come into force until 1973) and a Giftgesetz (Toxic Law), which is designed to limit toxic materials in all products available to the general public. The toxic law will limit, for example, lead and benzene in motor gasoline. Such regulations have previously been placed in the Federal Food Regulations.

Lead in regular gasoline is expected to be reduced to 0.54 grams lead per liter (0.57 grams per liter for premium gasoline). The benzene content is expected to be limited to between 5 and 8 percent.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

One of the significant indications of the Federal initiative in environmental conservation is the recent establishment of a central Amt für Umweltschutz (Department for Environmental Conservation). CH.017 This organization reports directly to the Chancellor of the Interior, concentrating in one central office all activities directed against air pollution, noise, and all other environmental problems.

With the formation of the Amt für Umweltschutz (Department for Environmental Conservation), responsibilities among the Federal organizations previously involved in air quality conservation work could change. At present, the most significant technical and advisory group in Switzerland is the Eidgenössische Kommission für Lufthygiene/Commission Fédérale de l'Hygiène de l'Air (EKL--Federal Clean Air Commission). Under the chairmanship of Professor Högger, this 15-man advisory commission comprises hygienists, toxicologists and politicians. Statements of air conservation philosophy, recommended air quality measurement techniques and standards, and a Richtlinie (Code of Practice) for oil firing have also been issued. The EKL CH.017

has a budget which enables practical investigations to be conducted in the laboratories of the members.

The Eidgenössische Gesundheitsamt/Service Fédéral de l'Hygiène Publique (Federal Office of Public Health), to which the EKL is attached administratively, has responsibility for the coordination of air conservation technology with particular regard to public health aspects and has assisted in the development of the proposed legislation. This office is a part of the Department des Innern (Ministry of the Interior), there being no separate Ministry of Public Health.

A different Ministry, that for Economic Affairs (Volkswirtschaftdepartement) administers the existing air pollution legislation--the Labor Laws--through the BIGA (Bundesamt für Industrie, Gewerbe und Arbeit/Office Fédéral de l'Industrie, des Arts et Métiers, et du Travail--Federal Office for Industry, Commerce and Labor). This is achieved through the surveillance operations of the Eidgenössische Arbeitsinspektorat (Federal Labor Inspectorate). This body, working closely with Cantonal Laboratories or Health Inspectors, has Kreise (Districts Offices) in the principal industrial regions: Lausanne, Aarau, Zürich and St. Gallen. Practical air quality measurements are, however, made by the Arbeitsärztlicher Dienst, on the initiative of the Inspectorate. CH.002 CH.005 CH.011-16

Dr. Högger, chairman of the EKL, is the director for air pollution matters in the Arbeitsärztlicher Dienst (Occupational Hygiene Service), also reporting to the BIGA. This organization, originating as the medical department of the Zürich Arbeitsinspektorat--which is, like the other Inspectorates, responsible to BIGA--has now been detached as a separate group within the BIGA. As such it provides a pollution surveying service and advice on hygiene matters for all the Labor Inspectorates, always with an emphasis on health aspects as the present law requires. In doing so, extensive knowledge of air quality problems is acquired, which is made available to the EKL through Dr. Högger. CH.004

A number of other federal organizations provide air pollution information. Thus, the EMPA (Eidgenössische Materialprüfungsanstalt--Federal CH.006

Materials Testing Station) has a wide range of referee facilities for measuring emissions, both industrial and vehicular--and including noise. These facilities have also been used in work on diesel smoke methods in cooperation with 'Saurer,' the important Swiss diesel engine manufacturer. CH.027

The Eidgenössische Meteorologische Zentralanstalt (Federal Central Meteorological Establishment) has developed pollution dispersion formulae which take valley situations into account. CH.007

The Eidgenössische Agrikulturchemische Versuchsanstalte/Stations Fédérales d'Essais Agricoles (Federal Agrochemical Research Stations), located in various parts of Switzerland, make investigations on the effects of certain pollutants on crops, and the Eidgenössische Anstalt für das Forstliche Versuchswesen (Federal Forestry Research Establishment) undertakes some similar work on coniferous trees. CH.008 CH.009

The Schweizerische Normen Vereinigung (SNV--Swiss Standards Association), with its working group for petroleum products, issues product specifications, which include such limitations as fuel sulfur maxima. Though having no legal force at the present time, there is a possibility that some standards, for instance the fuel sulfur maxima, may become mandatory under the new Clean Air Law. CH.010

As air pollution results from only a small number of industries, there is no air quality conservation activity by the Schweizerischer Handels und Industrie Verein (Swiss Trade and Industry Association), to which most Swiss industries and other trade associations belong. Such activity is, however, shown by the Verein Schweizerischer Zement-, Kalk- und Gips-Fabrikanten (Association of Swiss Cement, Lime and Plaster Manufacturers) who have set up a technical station at Holderbank to deal with abatement problems in member companies' plant. CH.

The oil industry is also active. The Schweizerische Erdöl Vereinigung (EV--Swiss Petroleum Association) has a group for the coordination of policy and for discussion with federal and cantonal authorities. It has also recently CH.022

initiated the formation of a potentially important group, the VFWL (Verein zur Förderung der Wasser- und Lufthygiene/Association pour la Sauvegarde de l'Hygiène de l'Eau et de l'Air--Association for the Conservation of Water and Air Cleanliness). This body, supported by a wide range of industries including the federal railways, intends to provide an impartial supervisory service (comparable with that of the German TÜV's) supported by the commissioned work. The first activity is in water quality protection (tank inspection, and so on), but it is proposed to extend this later to air conservation. [illegible] [illegible]

Schweizerische Aluminium AG ('Alusuisse') have in recent years undertaken studies of the abatement of fluoride emissions. (A popular pressure group, now in abeyance, also arose in this connection: Interparlamentalische Arbeitsgruppe betreff Fluorschäden im Fricktal.) CH.024

Other individual companies also deal with local problems around their works.

In the academic world, air pollution activity is almost wholly to be found at the Eidgenössische Technische Hochschule (ETH--Federal Technical University) at Zürich, the only federal institution of higher education. Here, the Technisch-Chemisches Institut (Industrial Chemistry Institute) and the Institut für Hygiene und Arbeitsphysiologie (Institute of Hygiene and Work Physiology) are both undertaking investigations into aspects of air quality. CH.031 CH.032

The Schweizerische Vereinigung für Gesundheitstechnik (Swiss Association for Health Technology) provides a useful forum for the exchange of technical information, especially among cantonal authorities. Though many of its discussions relate to water pollution, test method standardization is an important air quality activity. CH.040

A recently formed private society that could become significant is the Schweizerische Gesellschaft für Umweltschutz (Swiss Society for the Protection of the Environment). Under the chairmanship of Professor CH.04[illegible]

Dr. med. Schär of the Institute for Social and Preventive Medicine at Zürich University, its founder, membership includes about 150 members of both Chambers of Parliament.

CH [illegible] NAT A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 [illegible]

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME EIDGENÖSSISCHE KOMMISSION FÜR LUFTHYGIENE
[illegible]
[illegible]

ACRONYM [illegible]

ADDRESS [illegible]
[illegible]

Tel

AFFIL

[illegible]

Title	PERSONNEL	Function
[illegible]	Dr. [illegible]	[illegible]
[illegible]	Dr. [illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

CH [illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 [illegible]

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]
[illegible]
Federal Office for Industry, Commerce and La[illegible]

ACRONYM [illegible]

ADDRESS [illegible]
3003 Bern

Tel

AFFIL [illegible]
[illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	Director
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

CH 005 00[illegible] A B C D ~~E~~ F 01 02 ~~03~~ ~~04~~ 05 ~~11~~ 12 13 14 15 21 22 ~~23~~ 24 25 31 32 33 34 35 ~~L~~ M S 1 ~~2~~ 3 8.71 S ~~I~~

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME
EIDGENÖSSISCHE ARBEITSINSPEKTORAT
[illegible] FEDERAL DE L'INSPECTION DU TRAVAIL
Federal Labour Inspectorate

ACRONYM:

See also CH.003 CH.004

ADDRESS [illegible]

Title PERSONNEL Function

See [illegible]

Tel

AFFIL
Bundesamt für Industrie...
(Office Fédéral [illegible]...
(CH.003)

AP aims and actions

[illegible], [illegible] Arbeitsärztlicher Dienst (Occup. Hlth. Service - CH.004).

Comments

Usual origin of requests to Arbeitsärztlicher Dienst for survey of AP in or around works.

CH.005 Eidgenössische Arbeitsinspektorat 8.71 ×

CH.005 Eidgenössische Arbeitsinspektorat 8.71

Kreis (District)	Address		Director
	[illegible] Petit Chêne,	1003 LAUSANNE	Ph. de Weisse
	Bahnhofstrasse [illegible],	5001 AARAU	K. [illegible]
	[illegible]quai [illegible],	8008 ZÜRICH	E. Bitterli
	[illegible]strasse [illegible],	9001 ST. GALLEN	H. [illegible]

NAME [illegible]	ACRONYM
ADDRESS [illegible]	Title PERSONNEL Function
Tel. [illegible]	[illegible]
AFFIL	

AP aims and activities [illegible]

Comments

NAME [illegible]	ACRONYM [illegible]
ADDRESS [illegible]	Title PERSONNEL Function
Tel.	
AFFIL	

AP aims and activities [illegible]

Comments [illegible]

CH 017 GOV A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.71 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: AMT FÜR UMWELTSCHUTZ
Department for Environmental Conservation

ACRONYM:
See also

ADDRESS: Departement des Innern,
3003 BERN.

Tel

AFFIL: Kanzeller des Innern
(Minister of the Interior).

Title	PERSONNEL	Function
Herr	F. Baldinger	director

AP aims and actions:
Coordination of all aspects of environmental conservation: water, air, noise, vibration, landscape, etc.

Comments:
Established 1971. Role still developing.

CH.017 Amt für Umweltschutz 6.71

CH 021 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 6.71 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: VEREIN ZUR FÖRDERUNG DER WASSER- UND LUFTHYGIENE
ASS'N POUR LA SAUVEGARDE DE L'HYGIENE DE L'EAU - DE L'AIR
Association for the Conservation of Water and Air Cleanness

ACRONYM: V F W L
See also

ADDRESS: Militärstrasse 24,
8004 ZÜRICH.

Tel: (051) 29.51.70

AFFIL: Supported by a wide range of industries (see text).

Title	PERSONNEL	Function
St'rat.	W. Jauslin	president
Herr	W. Kunz	vice-president
Dr.	Th. Suter	head of Inspectorate *

AP aims and actions:
To provide an impartial inspection and emission survey service for Swiss industry (compare with German TÜV's) and to advise on abatement measures.

Comments:
Established 1969. Secretarial assistance and office accommodation at present from EV (CH.022).
Main effort in WP at present; some AP

* Inspectorate at:-
Heinrichstrasse 147,
8005 ZÜRICH.
(tel: (051)44.61.26)

CH.021 Verein zur Förderung der Wasser- und Lufthygiene (VFWL) 6.71

[illegible] A [illegible]

Country No Type Function Sources Objects Contact Relevance [illegible] Status Date

NAME [illegible]

ACRONYM

ADDRESS [illegible]

Title PERSONNEL Function

Tel [illegible]

AFFIL

AP aims and actions

[illegible]

Comments

[illegible]

[illegible] A [illegible]

Country No Type Function Sources Objects Contact Relevance [illegible] Status Date

NAME [illegible]

ACRONYM

ADDRESS [illegible]

Title PERSONNEL Function

Tel [illegible]

AFFIL

AP aims and actions

[illegible]
with planners.
Advice on statement [illegible]

Comments

[illegible]

CH	005	IND	A B C D̸ E F̸	01 02 0̸3 04 05	11 12 13 14 15	21 22 23 24 25	31 32 3̸3 34 3̸5	L M̸ S	1 2 3̸	8.71	S ✗
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME CIBA-GEIGY AG

ACRONYM

See also

ADDRESS [illegible]strasse 141,
4002 BASEL.

Tel [illegible].50.11

AFFIL

Title	PERSONNEL	Function
Dr.	Bretscher	
Dr.	F. Maritz	

AP aims and actions

Control of AP from organic chemical works.
Studies of the efficiency of dust arresters.

Comments

Large group of pharmaceutical and fine chemical manufacturers.
Have works in several places in Switzerland.

CH.005 Ciba-Geigy AG 8.71

CH	071	ACT	A̸ B̸ C D E F	01 02 03 04 05	11 12 13 14 15	21 2̸2 23 24 25	31 32 3̸3 3̸4 3̸5	L̸ M S	1 2̸ 3	6.71	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME EIDGENÖSSISCHE T/H, Technisch-Chemisches Institut
Federal Tech. Univ., Inst. of Industrial Chemistry

ACRONYM: E T H

See also

ADDRESS Universitätstrasse 6,
8006 Zürich.

Tel [illegible]

AFFIL Department des Innern
(Min. of Interior).

Title	PERSONNEL	Function
Dr.Ing.	B. Böhlen	
	B B/NP	

AP aims and actions

Development of methods and techniques for measuring particulates and other pollutants.
Research into abatement processes, esp. for dust capture.

Comments

Dr. Böhlen is a member of EKL (see CH.001).

CH.071 ETH, Technisch-Chemisches Institut 6.71

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 [illegible]

Country No. Type Functions Sources Effects Controls Remedies [illegible] Date

NAME [illegible]

ACRONYM

ADDRESS [illegible]

Tel.

AFFIL.

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

[illegible] A B [illegible] 04 05 11 12 13 14 15 21 22 23 24 25 [illegible]

Country No. Type Functions Sources Effects Controls Remedies [illegible] Date

NAME [illegible]

ACRONYM

ADDRESS [illegible]

Tel. [illegible]

AFFIL.

Title	PERSONNEL	Function
[illegible]	[illegible]	[illegible]

AP aims and actions

[illegible]

Comments

[illegible]

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Country	No Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME SCHWEIZERISCHE GESELLSCHAFT FÜR UMWELTSCHUTZ

Swiss Society for the Protection of the Environment

ACRONYM

See also

ADDRESS Inst.f.Sozial-...medizin,
an der Universität,
8006 ZÜRICH.

Tel

AFFIL

PERSONNEL

Title	Name	Function
Prof.Dr	Meinrad Schär	chairman
Herr	Walter Bringolf	vice-chairman
Dr.	Willi Rohner	vice-chairman

AP aims and actions

To campaign for an improved environment through changes in social and individual actions.

By cooperation, to seek reduced domestic and industrial pollutant emissions, including vehicle emissions and a change to clean-fuel power resources.

Comments

Membership includes many members of the Federal Parliament.

Established 1971.

CH.04. Schweizerische Gesellschaft für Umweltschutz 6.71

TURKEY

BACKGROUND

Air pollution problems in Turkey center primarily on the inland capital city of Ankara. No comparable problems occur in Instanbul or in other coastal cities. Aside from the low, rolling hills of Turkish Thrace, the fertile valleys that open to the Aegean Sea, and the narrow littoral along the Black Sea, Turkey as a whole is wrinkled by rugged mountain ranges that surround and intersect the high, semi-arid Anatolian plateau. The country stretches 1500 kilometers from east to west along the 40th parallel and 630 kilometers from north to south. Average elevations vary from 600 meters above sea level in the west to 1800 meters amid the eastern highlands. The 1969 population of Turkey was 34.8 million.

Ankara lies on the 40th parallel and has a population of around 1 million. Located at an elevation of about 850 meters and surrounded by hills with elevations of about 1100 meters, the city is situated in a bowl-shaped area. There are no continuous or prevailing winds, and the few winds there are usually of low velocity. The topography that adversely affects air movement in Ankara also contributes to the formation on inversions. The pollutant emissions from domestic heating devices utilizing low-grade lignite coal, coupled with the topography and meteorology, make Ankara one of the most polluted cities in the world. Aside from pollution caused by coal burning operations, exhaust gases from automobiles and dust from the dirt roads within the city contribute to the total environmental problem.

Four major studies dealing with abatement of'air pollution in Ankara have been supported by the Turkiye Bilimsel ye Teknik Arastirma Kurumu (TUBITAK--The Scientific and Technical Research Council of Turkey). One of the more promising projects involves the conversion of lignite to briquettes, i.e., a means of better utilizing the local lignite reserves. Still in the pilot plant stage, this program makes use of a new process TR-01

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developed by the Mineral Research and Development Institute. Another project concerns district heating of Ankara. A third deals with the inventory and improvement of boilers. The last of the four treats the standardization of monitoring methods. Two other projects, not directly supported by TUBITAK but similar in some respects to these efforts, concern both the production of smokeless fuel and district heating. These latter projects are under the aegis of the Turkish Coal Administration and the Electric, Gas, and Bus Administration, respectively.

In December 1969, the NATO Committee on the Challenges of Modern Society (CCMS) initiated the Pilot Study on Air Pollution. The CCMS Steering Group on Air Pollution, composed of one member each representing TUBITAK, the Ministry of Interior of the Federal Republic of Germany and the Environmental Protection Agency in the United States, chose Ankara; Frankfurt, Germany; and St. Louis, Missouri as pilot cities. The purpose of the study is to demonstrate the rationale for establishing long-term air pollution control programs in urban areas. To this end, a program was set up that comprises the following elements in the system of abating air pollution: assessment of air quality in both present and future conditions; development of mathematical diffusion models to be used in the assessment studies; promulgation of air pollution criteria (relating ambient air quality levels to the effects on man and his environment); and implementation of control techniques. The first phase of the project deals exclusively with two pollutants: sulfur oxides and particulates; the second phase is concerned with the automotive pollutants: hydrocarbons, carbon monoxide, nitrogen oxides, and oxidants.

The assessment study of Ankara began in 1970 with an extensive emissions inventory and the establishment of a 13-station monitoring network to survey ambient levels of sulfur dioxide and particulates. The results of this study, which include diffusion modeling for both present and future conditions, will be reported in a document entitled, "Guideline to the Assessment of Air Quality," to be published as a NATO/CCMS document. Turkish representatives are participating in the other tasks of the study (model development and promulgation of criteria and control technology) as members of expert panels, along with personnel from the United States, the Federal Republic of Germany, France, Italy, and the Netherlands.

Present Controls

Regulation of pollution in Turkey is presently very slight. Though research on the effects of air pollution began in Ankara as early as 1926, it was not until 1961 that the Parliament considered the first bill to alleviate the problem (which was not passed). TUBITAK and other agencies have drafted bills presently being considered. This legislation, however, considers primarily the organizational structure of the body to assume the role as the air pollution control agency, rather than specific abatement measures.

Trends

By using models to forecast air pollution to the year 1990, the NATO/CCMS Pilot Study shows that the present grave problem will become much worse if not attacked in the near future. The five studies and projects currently underway, however, indicate a greater awareness and desire on the part of the Turkish government to alleviate the problem. It is expected that legislation will soon be passed to establish a regulatory body. With the present laboratory facilities and plans to expand them and with a desire to train more personnel in the environmental sciences, Turkey is on its way to establishing a viable control program.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

At present, the most significant governmental body in the country dealing
with air pollution is TUBITAK, the Scientific and Technical Research Council TR-01
of Turkey. The head of the Council, the Secretary General, represents the
Turkish government on the Working Group on Air Pollution for the NATO Committee on the Challenges of Modern Society. The Council also aids in drafting X-05
legislation concerning environmental problems. Working closely with TUBITAK
is the School of Hygiene of the Ministry of Health, which operates the lab- TR-02
oratory and collects samples from the monitoring network for the NATO study.

A variety of other organizations work directly or indirectly on air pollution problems in Ankara: the Ministry of Foreign Affairs, University of Instanbul, Middle East Technical University, Ministry of Transportation, Mineral Research and Development Institute, General Directorate of Coal Management, Ministry of Power and Natural Resources, Ministry of Health and Social Assistance, Meteorological Institute of the Ministry of Agriculture, Ministry of Housing and Reconstruction, the City of Ankara, Ankara Master Plan Bureau, Turkish Municipal Affairs Association, Turkish State Planning Organization, Chamber of Mechanical Engineers (the Electric, Gas, and Bus Administration), and the Turkish Association for Prevention of Ankara Air Pollution.

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Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME Turkiye Bilimsel Ve Teknik Arastirma Kurumu

The Scientific and Technical Research Council of Turkey

ACRONYM TUBITAK

See also

ADDRESS

Bayindar Sokak 33
Yenisehir, Ankara, Turkey

Tel

AFFIL

PERSONNEL

Title		Function
Prof. Dr.	M. Miraboglu	Secretary General

AP aims and actions

Coordinating Agency for NATO/Committee on the Challenges of Modern Society-Pilot Study on Air Pollution.

Comments

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Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME School of Hygiene, Ministry of Health

ACRONYM

See also

ADDRESS

Cemal Gursel Caddesi No. 18
Sihhiye-Ankara, Turkey

Tel

AFFIL

PERSONNEL

Title		Function
Dr.	A. Ileri	Director, Environmental and Occupational Health Division

AP aims and actions

Conducts monitoring and data analysis for 13 station network in Ankara in conjunction with the NATO/Committee on the Challenges of Modern Society-Pilot Study on Air Pollution

Comments

URUGUAY

The principal sources of air pollution in Uruguay are automobile exhaust, domestic heating, and industrial stacks, chiefly in the capital city of Montevideo. General regulations with respect to the maintenance of equipment and to chimney heights are administered by the municipality and the Ministry of Public Health. A continuing program of public education is sponsored by the Uruguayan Association Against Air Pollution in Montevideo with Professor J.O. Ubios, Chairman.

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APPENDIX A

USSR Air Quality Standards

(from World Health Organization - 1968)

Substance	Single exposure (approx.- 20 minute averaging time)		24 hour Averaging Time	
	mg/m^3 STP	PPM	mg/m^3 STP	PPM
Acetaldehyde	0.01	0.005	--	--
Acetic Acid	0.2	0.08	--	--
Acetic Anhydride	0.1	0.02	--	--
Acetone	0.35	0.15	0.35	0.15
Acetophenone	0.003	0.0006	0.003	0.0006
Acrolein	0.3	0.12	0.1	0.04
Ammonia	0.2	0.28	0.2	0.28
Amyl Acetate	0.1	0.019	0.1	0.019
Amylene	1.5	0.5	1.5	0.5
Aniline	0.05	0.013	0.03	0.008
Arsenic (as As)	--	--	0.003	--
Benzene	1.5	0.5	0.8	0.25
Butane	200.	85.	--	--
Butanol	0.3	0.1	--	--
Butyl Acetate (-n)	0.1	0.021	0.1	0.021
Butylene	3.	1.3	3.	1.3
Butyric Acid	0.015	0.004	0.01	0.003
Caprolactum	0.06	0.013	0.06	0.013
Caprylic Acid	0.01	0.002	0.005	0.001
Carbon Black (soot)	0.15	--	0.05	--
Carbon Disulfide	0.03	0.01	0.01	0.0033
Carbon Monoxide	3.	2.7	1.	0.9
Carbon Tetrachloride	4.	0.7	--	--
Chlorine	0.1	0.033	0.03	0.01
Chloroaniline (-p)	0.04	0.008	--	--
Chlorobenzene	0.1	0.02	0.1	0.02
Chloroprene	0.1	0.028	0.1	0.028
Chlorophenyl Isocyanate (-m)	0.005	0.001	0.005	0.001
Chlorophenyl Isocyanate (-p)	0.0015	0.0002	0.0015	0.0002
Chromium-hexavalent (as CrO_3)	0.0015	--	0.0015	--
Cyclohexanol	0.06	0.015	0.06	0.015
Cyclohexanone	0.04	0.009	0.04	0.009
Dichloroethane	3.	0.75	1.	0.25
2-3 Dichloro 1-4 Naphthoquinone	0.05	--	0.05	--
Diethylamine	0.05	0.02	0.05	0.02
Diketene	0.007	0.002	--	--
Dimethylaniline	0.0055	0.001	--	--
Dimethyl Disulfide	0.7	0.18	--	--
Dimethylformamide	0.03	0.01	0.03	0.01
Dimethyl Sulfide	0.08	0.03	--	--
Dinyl (diphenyl + its oxides)	0.01	0.0015	0.01	0.0015
Divinyl	3.	1.2	1.	0.4

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APPENDIX A (continued)

Epichlorohydrin	0.2	0.05	0.2	0.05
Ethanol	5.	2.5	5.	2.5
Ethyl Acetate	0.1	0.029	0.1	0.029
Ethylene	3.	2.3	3.	2.3
Ethylene Oxide	0.3	0.15	0.03	0.015
Formaldehyde	0.035	0.029	0.012	0.01
Flourides (as F)	0.03	--	0.01	--
Flourides (insoluable)	0.2	--	0.03	--
Furfural	0.05	0.013	0.05	0.013
Gasoline (as C) (from Crude Oil)	5.	1.25	1.5	0.36
Gasoline (as C) (from shale)	0.05	0.01	0.05	0.01
Hexamethylene-diamine	0.01	0.002	0.01	0.002
Hydrochloric Acid (as H+)	0.006	--	0.006	--
Hydrochloric Acid (as HCl)	0.2	0.15	--	--
Hydrogen Flouride	0.02	0.03	0.005	0.00
Hydrogen Sulfide	0.00	0.005	0.00	0.005
Isopropyl Benzene	0.014	0.003	0.014	0.003
Isopropyl Benzene Hydroperoxide	0.007	0.001	0.007	0.001
Lead (as Pb)	--	--	0.0007	--
Lead Sulfide (as Pb)	--	--	0.0017	--
Malathion	0.015	--	--	--
Maleic Anhydride	0.2	0.05	0.05	0.01
Manganese (as Mn)	0.03	--	0.01	--
Mercury (as Hg)	--	--	0.0003	--
Mesidine (2 Amino-1,3,5 trimethyl benzene)	0.003	--	--	--
Methanol	1.	0.75	0.5	0.36
Methyl Acetate	0.07	0.023	0.07	0.023
Methyl Acrylate	0.01	0.003	--	--
Methyl Aniline	0.04	0.01	--	--
Methyl Mercaptan	$9x10^{-6}$	--	--	--
Methyl Methacrylate	0.1	0.025	0.1	0.025
Methyl Parathion	0.005	--	--	--
Methylstyrene (α)	0.04	0.01	0.04	0.01
Naphthaquinone (α)	0.005	0.001	0.005	0.001
Nitric Acid (as HNO_3)	0.4	0.15	--	--
Nitric Acid (as H+)	0.006	--	0.006	--
Nitrobenzol	0.008	0.001	0.008	0.001
Nitrogen Dioxide	0.0 5	0.045	0.085	0.045
Phenol	0.01	0.0026	0.01	0.0026
Phosphoric Anhydride	0.15	0.026	0.05	0.0085
Phthalic Anhydride	0.2	0.03	0.2	0.03
Propanol	0.3	0.12	--	--
Propylene	3.	1.5	3.	1.5
Pyridine	0.08	0.023	0.08	0.023
Styrene	0.003	0.0007	0.003	0.0007
Sulfur Dioxide	0.5	0.19	0.15	0.5
Sulfuric Acid (as H+)	0.006	--	0.006	--
Sulfuric Acid (as H_2SO_4)	0.3	--	0.1	--
Suspended Particulate Matter (dust)	0.5	--	0.15	--
Thiophene	0.6	0.17	--	--
Toluene	0.6	0.15	0.6	0.15
Toluene Diisocyanate	0.05	0.0071	0.02	0.0029
Tributyl Phosphate	0.01	--	--	--
Trichloroethylene	4.	0.67	1.	0.17
Valeric Acid (-n)	0.03	0.008	0.01	0.003
Vanadium Pentoxide	--	--	0.002	--
Vinyl Acetate	0.2	0.06	0.2	0.06
Xylene	0.2	0.05	0.2	0.05

APPENDIX B

STATE PUBLISHING HOUSES

Gosvoenizdat	State Military Publishing House
Gosgeolizdat	State Geological Literature Publishing House
Gosizdat	State Publishing House
Goslestekhizdat	State Forest Industry Publishing House
Gosmedizdat	State Medical Publishing House
Gosplanizdat	State Planning Commission Publishing House
Gossel'khozisdat	State Agricultural Publishing House
Gosstatizdat	State Statistical Publishing House
Gosstroiizdat	State Building Literature Publishing House
Gostekhizdat	State Theoretical and Technical Literature Publishing House
Gostoptekhizdat	State Petroleum and Mineral Fuel Industry Publishing House
Gostransizdat	State Transportation Literature Publishing House
Goskhimizdat	State Chemical Literature Publishing House
Gosenergoizdat	State Power Engineering Publishing House
Gosatomizdat	State Atomic Energy Publishing House
Goslesbumizdat	State Forest, Paper and Woodworking Publishing House

APPENDIX D

PERIODICALS COVERING AIR POLLUTION TOPICS

A. Periodicals listed in order of the number of articles carried during approximately the last ten years on public health aspects of air pollution:

Journals

1. Hygiene and Sanitation (Gigiena i sanitariia)
2. Laboratory Matters (Laboratornoe delo)
3. The Factory Laboratory (Zavodskaia laboratoriia)
4. Labor Hygiene and Occupational Diseases (Gigiena truda i professional'nye zabolevaniia)
5. Physician's Matters (Vrachebnoe delo)
6. Atomic Energy (Atomnaia energiia)
7. Microbiology (Mikrobiologiia)
8. The Military-Medical Journal (Voenno-meditsinskii zhurnal)
9. The Journal of Microbiology, Epidemiology and Immunology (Zhurnal Mikrobiologiia, Epidemiologii i immunologii)
10. The Chemical Industry (Khimicheskaia promyshelennost')
11. Health (Zdorov'e)
12. The Medical Journal of Uzbekistan (Meditsinskii Zhurnal Uzbekistana)
13. Moscow Municipal Economy (Gorodskoe khoziaistvo Moskvy)
14. The Journal of Analytic Chemistry (Zhurnal analiticheskoi khimii)
15. The Public Health of Kazakhstan (Zdravookhranenie Kazakistana)
16. Medical News (Novosti meditsiny)
17. The Azerbajdzhanian Medical Journal (Azerbajdzhanskii meditsinskii zhurnal)

Other Serial Publications

1. The Voeikov Main Geophysical Observatory Works (Glavnaia goefizicheskaia observatoriia im. Voeikova. Trudy)
2. The Academy of Medical Sciences of the USSR Herald (Akademiia meditsinskikh nauk USSR. Vestnik)
3. The Leningrad Sanitary-hygiene Medical Institute Works (Leningradskii sanitarno-gigienineskii meditsinskii institut. Trudy)

APPENDIX D (continued)

B. Periodicals concerned with air pollution caused by automobile exhaust:

Journals

1. The Automobile Industry (Avtomobil'naia promyshlennost')
2. Automobile Transport (Avtomobil'nyi transport)
3. Rubber and Resins (Kauchuk i rezina)
4. Work Safety and Socialist Insurance (Okhrana truda i sotsialisticheskoe strakhovanie)
5. The Industry of Belorussia (Promyshlennost' Belorussii)
6. Tractors and Agricultural Machinery (Traktory i sel'skomashiny)
7. The mining Journal (Gornyi zhurnal)
8. Behind the Wheel (Za rulem)
9. The Journal of Applied Spectroscopy (Zhurnal prikladnoi spektroskopii)
10. The Municipal Economy of Moscow (Gorodskoe khoziaistvo Moskvy)
11. Oil and Gas (Neft' i gaz)

Other Serial Publications

1. The Central Diesel Research Institute Works (Tsentral'nyi nauchno-issledovatel'skii dizel'nyi institut. Trudy)
2. The Sverdlovsk Institute of Mining Works (Institut gornogo dela g. Sverdlovsk. Trudy)
3. The Automobile Industry Research Institute. Auto Construction (Nauchno-issledovatel'skii institut informatsii avtomobil'noi promyshlennosti, Seriia "Avtomobilostroenie")
4. The Engine Institute of the Academy of Sciences of the USSR. Works (Institut dvigatelei ANSSR. Trudy)
5. The Institute of Chemical Sciences of Kazakhstan. Works (Institut khimicheskikh nauk Kaz. SSR. Trudy)

C. Other Relevant Journals:

1. Energy (Energitika)
2. Flame (Ogonek)
3. Gas Industry (Gazovaia promyshlennost')
4. Industrial Construction (Promyshlennoe stroitel'stvo)
5. Instruments and Experimental Technique (Pribory i tekhnika eksperimenta)
6. Journal of Analytical Chemistry (Zhurnal Analiticheskai Khimii)
7. Journal of Applied Chemistry (Zhurnal prikladnoi khimii)
8. Journal of Experimental and Clinical Medicine (Zhurnal eksperimental'noi i klinicheskoi meditsinii)
9. Meteorology and Hydrology (Meteorologiia i Gidrologiia)
10. Nature (Priroda)
11. Non-ferrous Metals (Tsvetnye Metally)
12. Pharmacology and Toxicology (Farmakologiia toksikologiia)
13. Problems of Oncology (Voprosy Onkologii)
14. Work (Trud)
15. Work Safety in Industry (Bezopasnost' truda v promyshlennosti)

REVISED APPENDIX C

WORKS ON AIR POLLUTION TOPICS

I. Communal Hygiene - General

Ryazanov, V.A., ed., A Textbook of Community Hygiene, Medgiz, Moscow (1961)

________________, Problems of Community Hygiene, Kiev (1966)

II. Air Pollution - General

Prechistenskii, S.A., Radioactive Effluents in the Atmosphere, Moscow (1961)
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Limits of Allowable Concentrations of Atmospheric Pollutants. V.A. Ryazanov, Editor, B.S. Levine, Translator

	NTIS Number
Volume 1, 1952	59-21173
Volume 2, 1955	59-21174
Volume 3, 1957	59-21175
Volume 4, 1960	61-11148
Volume 5, 1962	62-11605

In addition, there are 18 volumes of U.S.S.R. Literature on Air Pollution and Related Occupational Diseases, also translated by B.S. Levine. The numbers under which they are available from NTIS:

Volume 1	TT 60-21049
2	60-21188
3	60-21475
4	60-21913
5	61-11149
6	61-21962
7	62-11103
8	63-11570
9	64-11574
10	64-11767
11	65-61965
12	66-61429
13	66-62191
14	67-60046
15	PB 179 140
16	PB 179 141
17	PB 180 522T
18	PB 180 523T

Comments concerning these volumes:

Volume 9 (in two parts) contains books six and seven of "Limits of Allowable Concentrations of Atmospheric Pollutants."

Volume 10 is the translation of "Rapid Methods for the Determination of Harmful Gases and Vapors in the Air," by A.V. Demidov and L.A. Mokhov.

Volume 11 is a translation of "Aerodynamic Principles of Inertia Separation," by A.I. Pirumov.

Volume 15 is a translation of Book 8 of "Limits of Allowable Concentrations of Atmospheric Pollutants."

Volume 16 is a translation of "Biological Effects and Hygienic Significance of Atmospheric Pollutants."

Volume 17 is a translation of "Biological Effects and Hygienic Importance of Atmospheric Pollutants."

The Survey of U.S.S.R. Literature is being continued, also under an air pollution grant, by the American Institute of Crop Ecology, 809 Dale Drive, Silver Spring, Maryland 20910. Nine volumes have been published up to date since 1969, and are available at NTIS:

Volume I - AICE Survey of USSR Air Pollution Literature. Atmospheric and Meteorological Aspects of Air Pollution PB 198-061

Volume II - AICE Survey of USSR Air Pollution Literature. Effects and Symptoms of Different Plant Species in Various Habitats, in Relation to Plant Utilization for Shelter Belts and as Biological Indicators PB 198-062

Volume III - AICE Survey of USSR Air Pollution Literature. The Susceptibility or Resistance to Gas and Smoke of Various Arboreal Species Grown Under Diverse Environmental Conditions in a Number of Industrial Regions of the Soviet Union PB 198-063

Volume IV - AICE Survey of USSR Air Pollution Literature. Meteorological and Chemical Aspects of Air Pollution; Propagation and Dispersal of Air Pollutants in a Number of Areas in the Soviet Union PB 198-064

Volume V - AICE Survey of USSR Air Pollution Literature. Effects of Meteorological Conditions and Relief on Air Pollution; Air Contaminants - Their Concentration, Transport, and Dispersal PB 198-410

Volume VI - AICE Survey of USSR Air Pollution Literature. Air Pollution in Relation to Certain Atmospheric and Meteorological Conditions and Some of the Methods Employed in the Surveyaand Analysis of Air Pollutants PB 198-527

Volume VII - AICE Survey of USSR Air Pollution Literature. Measurements of Dispersal and Concentration, Identification, and Sanitary Evaluation of Various Air Pollutants, with Special Reference to the Environs of Electric Power Plants and Ferrous Metallurgical Plants PB 200-996

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VENEZUELA

The main concern about air pollution in Venezuela is in the capital city, Caracas, which has a large number of automobiles. The city also has two large garbage dumps that burn at each end of an encompassing valley. While air pollution has never become critical there, because of the prevailing trade winds, the public has expressed increasing concern. The Ministry of Health established a network of local monitoring stations in 1971, and research in this field is conducted at the Universidad Central de Venezuela for the Academy of Sciences, under Professor Gustavo Rivas Mijaras.

Air Pollution is not considered a significant factor outside of Caracas, though water pollution is. It is expected that the laws emphasizing water pollution control throughout the country will be strengthened and more carefully enforced in the future.

YUGOSLAVIA

(Socijalistička Federativna Republika Jugoslavija)

GENERAL AIR POLLUTION BACKGROUND

Geography

Yugoslavia consists of three basic regions: the Adriatic coast along the western border, Pannonic lowlands in the northeast, and chains of mountains in between. Its climate varies from Mediterranean in the southwest to continental in the northeast. The country covers an area of 256,000 square kilometers and has a population of about 20,500,000. Prior to the Second World War, Ygoslavia was predominantly an agricultural country, but after the war an intensive industrialization and urbanization started. This development was accompanied by the undesirable, but unavoidable consequences of increasing environmental pollution and occupational health problems.

Deposits of iron, lignite, bauxite, lead, mercury, zinc, manganese, copper, silver, chromium, antimony, asbestos, and clay, as well as oil and natural gas resources have represented a solid basis for the growth of various industrial activities. Hydroelectric power has also been extensively developed.

Political Features

Yugoslavia is a federation of six socialist republics (Bosnia and Hercegovina, Croatia, Macedonia, Montenegro, Serbia, and Slovenia) and two autonomous provinces (Vojvodina and Kosovo). Within the independent republics, each subdivision (town, community) is also independent in many respects. The problems of environmental pollution are related primarily to the larger towns and industrial areas. Because of cold winters in the continental part of the country, accompanied by frequent periods of atmos-

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*Sources for this review include information supplied by M. Fugas, laboratory head at the Institute for Medical Research and Occupational Health, Zagreb.

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pheric stagnation, there is quite a high degree of air pollution from heating in these towns. This condition has recently caused public concern, as well as many discussions in the communications media.

Present Controls

The basic air pollution control law was passed in 1965 (Službeni list SFRJ No. 30). Although it represents a useful framework for the enforcement of control measures, the implementing regulations concerning air quality, emissions and design standards have not yet appeared. The latest approach is to let each community or republic try its own way and then exchange views after sufficient experience is gained to form the basis for proposing federal regulations. So far, control activities in Sarajevo (Bosnia) and Ljubljana (Slovenia) have been directed toward a more efficient fuel combustion, while in Zagreb (Croatia) regulations are being prepared to restrict the sulfur content of fuels. The authority for supervision of execution of the above mentioned law is given to federal, republic, district, and local sanitary inspectorates, which are essentially independent.

Trends

In the last few years, the need has become obvious for cooperation, coordination, and exchange of information among governmental, academic, industrial, and independent research institutions dealing with air pollution problems. To this end, intensive activities have been going on to identify these institutions and bring them together (1) through a professional association, (2) through the formation of research centers carrying out large joint projects in the field, (3) through town committees for air pollution control set up by the local government of each of the four largest towns (Belgrade, Zagreb, Sarajevo and Ljubljana), and (4) by establishing a department for the protection of the human environment in each republic, at the Secretariat for Town Planning, Housing, and Community Affairs.

The products of fuel combustion in stationary sources are still the primary problem, but interest in automotive pollution is growing. Industrial pollution problems are handled individually, with a general tendency to remove "dirty" industrial plants from populated areas.

RELATIONSHIPS AMONG MAJOR ORGANIZATIONS

There is no formal vertical organization of the governmental institutions
responsible for air pollution control. Because of the general process
of decentralization, the Federal Public Health Institute, which the basic YU-001
air pollution control law indicated would play a leading role in the preparation
of standards for air quality, emissions, and plant design, is no
longer in the forefront of these activities. The Air Pollution Prevention
Section of the Yugoslav Committee for Chemical Engineering, which joined YU-003
the International Union of Air Pollution Prevention Associations in December
1970, and the local committees on air pollution control have taken over the
initiative in all air pollution control activities. The chain of Sanitary
Inspectorates has the authority to grant location and working licenses for
new installations that represent potential air pollution sources and to
keep records of all such sources within the jurisdiction of the respective
inspectorates.

Serbia

Health effects of air pollution and measurements of air quality are
the concern of the Federal and Republican Public Health Institutes in Belgrade YU-401
and, to some extent, the Public Health Institutes of Novi Sad and Niš. YU-402
Special problems are studied by the Institute for Occupational Medicine and YU-407
Radiological Protection in Belgrade. YU-408
YU-403

Studies of emission dispersion are carried out by the Institute for
Technology of Nuclear and Other Mineral Raw Materials in Belgrade and the YU-404
Institute for Nuclear Sciences "Boris Kidrič," Vinca. The latter also performs YU-405
efficiency tests on filters. The Republican and Federal Institutes of
Hydrology and Meteorology in Belgrade are responsible for meteorological YU-002
measurements and diffusion studies.

Croatia

Health effects of air pollution and air quality measurements in this
region are the responsibility of the Institute for Medical Research and YU-202
Occupational Health in Zagreb, in collaboration with the Andrija Štampar YU-203
School of Public Health and, to some extent, the Public Health Institute YU-204
of Zagreb.

Measurement and control of emissions, efficiency testing of dust
collectors and design standards are the concern of the Institute for YU-207
Electricity in Zagreb, and the latter two activities are responsibilities
also of the Steam Boiler Factory in Zagreb. The Institute for Medical YU-209
Research and Occupational Health is active in some technical aspects of YU-202
air pollution, assisting the republican and municipal sanitary inspector-
ates in such matters as calculations of chimney heights. Meteorological
measurements and interactions of meteorological factors and air pollution
are studied by the Republican Institute for Hydrology and Meteorology and YU-206
by the Institute for Atmospheric Physics in Zagreb. YU-205

Bosnia and Hercegovina

Health effects of air pollution and air quality measurements are YU-303
dealt with in Sarajevo by the Public Health Institute, the Institute for YU-302
Hygiene and Social Medicine, and the Institute for Tuberculosis. Effects YU-306
of air pollution on plants are studied by the Faculty of Agriculture at
Sarajevo University.
YU-307

Investigations of smoke emissions, particle separation and efficiency
testing of dust collectors are performed by the Institute for Mechanical
and Process Engineering at Sarajevo and, to some extent, by the Institute YU-301
of Metallurgy "Hasan Brkic" at Zenica and the Occupational Safety Estab- YU-308
lishment, Tuzla. Meteorological measurements are made by the Republican YU-305
Institute for Hydrology and Meteorology, Sarajevo. YU-304

Slovenia

Health effects of air pollution and air quality measurements are the
concern of the Medical Faculty, Ljubljana, The Republican Public Health YU-105
Institute in Ljubljana, and the Public Health Institute in Maribor. Air YU-101
pollution measurements and investigations of air cleaning devices are YU-104
performed by the Institute "Jože Štefan" and "Boris Kidrič" Chemical YU-107
Institute. Studies of emissions from combustion sources are carried out YU-108
at the Faculty of Mechanical Engineering and, from metallurgical sources YU-106
at the Institute of Metallurgy. Meteorological measurements and the in- YU-109
fluence of meteorological parameters on air pollution dispersion are

performed by the Meteorology Department of the University and by the Republican Institute for Hydrology and Meteorology in Ljubljana. YU-111

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Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: SAVEZNI HIDROMETEOROLOŠKI ZAVOD
FEDERAL INSTITUTE OF HYDROLOGY AND METEOROLOGY

ACRONYM:

See also

ADDRESS:
11000 BEOGRAD
Birčaninova 6
Tel: 645-779

AFFIL:

Title	PERSONNEL	Function
Dipl. meteor.	M.Slavnić	
Dipl. meteor.	G.Ilić-Sokolović	

AP aims and actions:

Federal executive council

Comments:

YU 003 NAT A ~~B~~ ~~C~~ D E ~~F~~ 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S ~~1~~ 2 3 6.71.

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: STRUČNA GRUPA ZA ČISTOĆU VAZDUHA
AIR POLLUTION PREVENTION SECTION

ACRONYM

See also

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Omladinsko šetalište bb
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AFFIL
Yugoslav Committee for Chemical Engineering

Title	PERSONNEL	Function	
Prof.	M.Krstić	chairman	(Sarajevo) (see 301)
Dipl.ing.	A.Knežević	secretary	(Sarajevo) (see 301)
Dipl.ing.	M.Kačarević	(Beograd)	(see 40)
Dipl.ing.	S.Mitrović	(Beograd)	(see 405)
Dipl.ing.	D.Ilijaš	(Zagreb)	(see 20)
Mr.Sci.	M.Fugaš	(Zagreb)	(see 202)

AP aims and actions

to bring together individual experts and professional institutions dealing with AP

to organize symposia, conferences and meetings on AP

to be in contact and exchange experience with similar organizations in other countries

Comments

cont. Dipl.ing. P.Novak (Ljubljana) (see 10)
Dipl. meteorol. B.Paradiž (Ljubljana) (see 105)
Members of the temporary committee

YU 101 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.71. 5
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ENOTA ZA KOMUNALNU HIGIHENU
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See also

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Trubarjeva 2

Tel 21-223, 21-781

AFFIL PUBLIC HEALTH INSTITUTE OF
S.R. SLOVENIA

Title	PERSONNEL	Function
Dr.(Med.)	D.Horvat	Head of the unit
	+2 senior techn.	

AP aims and actions:

AP measurements

Expert opinions on health effects and recommendations of protective measures

Participation in AP control Committee of S.R. Slovenia

Comments:

YU 102 REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.71.
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME REPUBLIŠKI URBANISTIČNI INSPEKTORAT
REPUBLICAN INSPECTORATE FOR TOWN PLANNING

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See also

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Tel 21-844

AFFIL REPUBLIŠKI SEKRETARIAT ZA
URBANIZAM SR SLOVENIA
SECRETARIAT FOR TOWN PLANNING
OF S.R. SLOVENIA

Title	PERSONNEL	Function
Dipl. ing.	M.Jerman	Chief inspector for town planning

AP aims and actions:

Location approval for buildings of regional interest

Participation in AP control Committee of Slovenia

Comments:

YU 103REG ~~A~~ ~~B~~ C ~~D~~ ~~E~~ F 01 02 03 04 05 11 12 13 14 15 21 ~~22~~ ~~23~~ ~~24~~ 25 31 32 33 34 35 L ~~M~~ S 1 ~~2~~ 3 3.71.
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: HIDROMETEOROLOŠKI ZAVOD SRS
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See also

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Title	PERSONNEL	Function
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Dipl.ing.	M.Bonač,	(chem.), officer
Dipl.ing.	T.Zupančič,	(meteorol.), officer
Dipl.ing.	J.Rakovec,	(meteorol.), officer
+3	techn. + 1 NP	

AP aims and actions:

Calculation of AP dispersion in various meteorological conditions and effective chimney height

Study of critical meteorological parameters necessary for prognosis of high periods of AP

Comments:

^{x}see also 003

YU 104MUN ~~A~~ ~~B~~ C ~~D~~ E F 01 02 03 04 ~~05~~ ~~11~~ 12 13 14 15 21 22 ~~23~~ ~~24~~ ~~25~~ 31 32 33 34 35 L ~~M~~ S 1 ~~2~~ 3 3.71.
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ZAVOD ZA ZDRAVSTVENO VARSTVO MARIBOR
PUBLIC HEALTH INSTITUTE MARIBOR

ACRONYM
See also

ADDRESS:
62000 MARIBOR
Prvomajska 1

Tel.: 31-160
AFFIL.:

Title	PERSONNEL	Function
Mr.Sci.	S.Verhovnik	spec. in sanit. eng.
Dipl.ing.	O.Križan	(chem.)
Mr.Sci.	V.Keršič	(Dr.Med.)
Dr.Med.	I.Černčič	
+ 2	senior techn.,	
6	techn. and	
4	part time assoc.	

AP aims and actions:

AP measurements within industrial premisses, but also in ambient air and measurement of emission.

Comments:

YU	105	ACD	A [✓ B] C D E F	01 02 03 04 05	[✓ 11] 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M [✓ S]	1 2 [✓ 3]	3.71.		S
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		

NAME: HIGIJENSKI INSTITUT
INSTITUT OF HYGIENE

ACRONYM:

See also

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AFFIL:
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Title	PERSONNEL	Function
Prof.Dr.	I.Bonač	
Mrs.	M.Sušec-Michieli jun.	research aasoc.
Dr.Med.	M.Tomažić	

AP aims and actions:
Education and expert opinions on health effects

Comments:

YU	106	ACD	[✓ A] [✓ B] C D E F	[✓ 01] [✓ 02] 03 04 05	11 12 13 14 15	21 22 23 24 25	31 [✓ 32] [✓ 33] [✓ 34] 35	[✓ L] M S	1 [✓ 2] 3	3.71.		S
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		

NAME: FAKULTET ZA STROJNIŠTVO
FACULTY OF MECHANICAL ENGINEERING

ACRONYM:

See also

ADDRESS: 61000 LJUBLJANA
Aškerčeva 16

Tel. 25-251

AFFIL:
Ljubljana University

Title	PERSONNEL	Function
Prof.ing.	L.Andree	full-time professor
Dr.Sci.	R.Pavletič	assistant professor
Mr.Sci.	D.Poljak	assistant professor
Dipl.ing.	R.Povše	assistant professor
Dipl.ing.	P.Novak^x^	lecturer
+ 4	P, 1 NP and 1	part-time assoc.

AP aims and actions:
Study of emissions from motor cars and combustion processes

Comments:
x see also 003

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date
YU	107	REG					25 31 32 33 34 35	L M S	1 2 3	3.71.

NAME: INSTITUT "JOŽE ŠTEFAN"
"JOŽE ŠTEFAN" INSTITUTE

ACRONYM:

See also

ADDRESS: 61001 LJUBLJANA
Jamova 39

Tel. 23-861

AFFIL.

Title	PERSONNEL	Function
Mr.Sci.	B.Lavrenčič	research associate (chem eng.)
Dr.Sci.	J.Kristan	senior research officer (physisist)
Dipl.ing.	M.Grgič	research associate (chem.eng.)
Prof.dr.	K.Lado	
+ 4	techn. and 2 part time associates	

AP aims and actions:

Predominantly radioactive contamination, but also other AP measurements, air filtration study

Preliminary investigation into lidar application

Comments:

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date
YU	108		A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	3.71.

NAME: KEMIJSKI INŠTITUT BORISA KIDRIČA
"BORIS KIDRIČ" CHEMICAL INSTITUTE

ACRONYM:

See also

ADDRESS: 61000 LJUBLJANA
Hajdrihova 19

Tel. 22-495

AFFIL.

Title	PERSONNEL	Function
Dr.Sci.	J.Fegeš	(chem. eng.)
Dr.Sci.	Š.Skledar	(chem. eng.)
Dipl.ing.	B.Mejač	(chem.)
Dipl.ing.	M.Lindtner	(mech.)
+ 3	techn. + 2 NP	

AP aims and actions:

Analytical methods

Corrosion

Cleaning of exhaust gases

Comments:

YU 109 [✓ A] B C [✓ D] E F 01 02 [✓ 03] [✓ 04] 05 11 12 13 14 15 21 22 [✓ 23] [✓ 24] [✓ 25] [✓ 31] [✓ 32] [✓ 33] 34 35 L [✓ M] S 1 2 [✓ 3] 3.71.

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: METALURŠKI INSTITUT
INSTITUTE OF METALURGY

ACRONYM:

See also

ADDRESS:
61000 LJUBLJANA
Lepi pot 11

Tel: 24-401

AFFIL:

Title	PERSONNEL	Function
Dipl.ing.	A.Prešern	(metallurg.) director
Dipl.ing.	A.Osojnik	(chem.) research associate
Dipl.ing.	J.Perman	(chem.) research officer
Dipl.ing.	F.Pavlin	(metallurg.) research associate

AP aims and actions:

Measurement and prevention of emissions in metallurgy

Comments:

YU 110ACD [✓ A] [✓ B] C [✓ D] [✓ E] F 01 02 03 [✓ 04] 05 11 12 13 14 [✓ 15] 21 [✓ 22] [✓ 23] [✓ 24] 25 31 32 [✓ 33] 34 [✓ 35] L M [✓ S] 1 2 [✓ 3] 3.71. S

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LABORATORIJ ZA PROCESNU TEHNIKU I PRIPREMU MINERALNIH SIROVINA
LABORATORY FOR PROCESS ENGINEERING AND PREPARATION OF MINERAL ROW MATERIALS

ACRONYM:

See also

ADDRESS:
61000 LJUBLJANA
Aškerčeva 20

Tel: 23-395

AFFIL:
Faculty of Science and Technology,
Ljubljana University

Title	PERSONNEL	Function
Prof.Dr.	D.Ocepek	Head, Unit for Montanistic
Mr.Sci.	E.Eberl	research officer
Mr.Sci.	A.Rihar	research officer

+ 2 techn., 2 NP and 6 part time associates

AP aims and actions:

Education and research in process engineering

Comments:

YU 111ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.71.

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: **KATEDRA ZA METEOROLOGIJU FNT**

METEOROLOGY DEPARTMENT

ACRONYM:

See also

ADDRESS:

61000 LJUBLJANA
Aškerčeva 12
POB 311
Tel.: 22-121 ext. 284

AFFIL.:
Faculty of Science and Technology,
Ljubljana University

Title	PERSONNEL	Function
Dr.Sci.	Z.Petkovšek	Head of department
Dr.Sci.	A.Hočevar	assist. professor
+ 2	part time associates	

AP aims and actions:

Study of air circulation in valeys and its influence on air pollution dispersion

Comments:

YU	202	REG	~~A~~ ~~B~~ C ~~D~~ E F	~~01~~ 02 03 04 05	~~11~~ 12 13 14 15	21 ~~22~~ 23 ~~24~~ ~~25~~	31 32 33 34 35	~~L~~ M S	~~1~~ 2 3	6.71.
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

8 T

NAME: INSTITUT ZA MEDICINSKA ISTRAŽIVANJA I MEDICINU RADA
INSTITUTE FOR MEDICAL RESEARCH AND OCCUPATIONAL HEALTH

ACRONYM:

See also

ADDRESS:
41000 ZAGREB
Moše Pijade 158

Tel.: 39-542

AFFIL:
Yugoslav Academy of Sciences
and Arts, Zagreb, and
University of Zagreb

PERSONNEL

Title		Function
Prof.Dr.Sci.	M.Šarić	director
Mr.Sci.	M.Fugaš^x	head, Lab.Environ.Hyg.
Mr.Sci.	R.Pauković	(chem.eng.) senior research officer
Mr.Sci.	M.Gentilizza	(chem.eng.) res.assoc.
Mr.Sci.	B.Vilder	(phys.eng.) jun. research assoc.
Dipl.ing.	V.Vadić	(chem.) jun res.assoc.
+ 1 P, 4 techn., 1 NP		(directly in AP)

AP aims and actions:
Development and verification of methods of measurement, interference study
Atmospheric chemistry
Survey of AP in Zagreb. Coordination of AP measurement in Croatia and training of personnel.
Study of AP dispersion from chimneys, calculation of chimney height
Advice on AP control measures
Investigation of lead exposure levels of various population groups. Induced health effects are studied in collaboration with the Dept. for Occup.Diseases (see below) and 203.

Comments:
Collaborating Laboratory of the WHO International Reference Center on AP

^{x}Member of a committee for AP Control, City of Zagreb and of the APCA (see also 003)

The Institute as a whole is engaged in investigations of the Health effects of chemical and physical environmental factors and on the influence of urbanization and industrialization on man. (Clinical and epidemiological investigations, animal and in vitro experiments of acute and chronic effects, distribution, metabolism and elimination of industrial poisons and radioactive elements, early signs of increased absorption of those substances; incidence of degenerative chronic diseases in various populations, with or without known dust exposure; basic research and postgraduate teaching; publishes quarterly periodical Arhiv za higijenu rada i toksikologiju (Archives of Ind.Hyg. and Tox). Out of 125 employees 53 have academic degrees. The Institute consist of 14 units:

Laboratory for Analytical and Physical chemistry	Prof.Dr.Sci.	O.A.Weber
Laboratory for Biochemistry	Dr.Sci.	E.Reiner
Laboratory for Cellular Biology	Dr.Sci.	Y.Škreb
Laboratory for Radiation Dosimetry	Dipl.phys.	H.Cerovac
Laboratory for Physiology of Mineral Metabolism	Prof.Dr.Sci.	K.Kostial
Laboratory for Environmental Hygiene	Mr.Sci.	M.Fugaš
Laboratory for Luminescence	Prof.Dr.Sci.	K.Weber
Laboratory for Human Metabolism	Prof.Dr.Sci.	I.Šimonović
Laboratory for Degenerative Chronic Diseases	Prof.Dr.Sci.	M.Šarić
Laboratory for Applied Physiology	Dr.Sci.	Đ.Vukadinović
Laboratory for Psychophysiology of Work	Dr.Sci.	S.Vidaček
Laboratory for Environmental Radioactivity	Dipl.ing.	V.Popović
Laboratory for Toxicology	Dr.Sci.	K.Wilhelm
Department for Occupational Diseases	Prof.Dr.Med.	T.Beritić

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
YU	203	ACD	~~A~~ ~~B~~ C D E F	~~01~~ ~~02~~ 03 04 05	~~11~~ 12 13 14 15	21 22 23 ~~24~~ 25	31 32 33 34 35	L ~~M~~ S	1 ~~2~~ 3	6.71.	S

NAME: ODJEL ZA HIGIJENU RADA

DEPARTMENT OF OCCUPATIONAL HEALTH

ACRONYM:

See also

ADDRESS:

41000 ZAGREB
Rockefellerova 4

Tel.: 34-641

AFFIL.:

Andrija Štampar School of Public Health, Zagreb University

Title	PERSONNEL	Function
Prof.Dr.Sci.	F.Valić	director of the School and head of dept.
Dr.Sci.	B.Svjetličić	(vet.Med.) senior research assoc.
Dr.Sci.	Z.Škurić	(chem.) assist.prof.
Dr.Sci.	T.Žuškin	(MD) assist.prof.
Dr.Sci	D.Beritić	(MD) lecturer

AP aims and actions:

Development of methods for air pollution measurement

Health effects of heavy metals at various exposure levels (see 202)

Selective dust sampling

Respiratory dust diseases

Postgraduate and undergraduate teaching

Comments:

cont. Dipl.ing. M.Cigula (chem.) lecturer
+ 4 P and 5 techn.

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
YU	204		A B C ~~D~~ ~~E~~ F	~~01~~ ~~02~~ 03 04 ~~05~~	~~11~~ 12 13 14 15	21 22 ~~23~~ ~~24~~ 25	31 32 33 34 35	L M ~~S~~	1 ~~2~~ 3	3.71.	S

NAME: SLUŽBA ZA SANITACIJU FIZIČKE OKOLINE

ENVIRONMENTAL SANITATION DEPARTMENT

ACRONYM:

See also

ADDRESS:

41000 ZAGREB
Mirogojska cesta 16

Tel.: 38-453

AFFIL.:

Public Health Institute of the City of Zagreb

Title	PERSONNEL	Function
Dipl.ing.	R.Senjanović^x	(arch.) head of the dept.
Dipl.ing.	V.Soukup	(chem.) research officer

AP aims and actions:

Measurement of deposited matter and smoke emission in the city of Zagreb

Recommendations on AP control measures

Comments:

^x Member of a committee on APC of the city of Zagreb

YU 205 ACD ~~A~~ ~~B~~ C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 ~~24~~ 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 6.71. S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: **INSTITUT ZA FIZIKU ATMOSFERE**
INSTITUTE FOR ATMOSPHERIC PHYSICS

ACRONYM:
See also

ADDRESS:
41000 ZAGREB
Grič 3

Tel:

AFFIL:
Yugoslav Academy of Sciences
and Arts, Zagreb

Title	PERSONNEL	Function
Prof.Dr. Sci.	B.Makjanić	director of the Institute
Mr.Sci.	I.Lisac	(meteorologist)
Dipl.ing.	A.Bratanić	(phys.)
+ 1	techn.	

AP aims and actions:

Measurement of precipitation acidity

Measurement of atmospheric turbidity
(intensity of solar radiation)

Meteorological measurements

Comments:

YU 206 REG. ~~A~~ ~~B~~ C ~~D~~ E F 01 02 03 04 05 11 12 13 14 ~~15~~ 21 22 ~~23~~ ~~24~~ ~~25~~ 31 32 33 34 35 ~~L~~ M S 1 2 ~~3~~ 3.71. S T
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME REPUBLIČKI HIDROMETEOROLOŠKI ZAVOD SRH
INSTITUTE OF HYDROLOGY AND METEOROLOGY OF S.R.CROATIA

ACRONYM
See also

ADDRESS
41000 ZAGREB
Grič 3

Tel 32-121, 33-316

AFFIL

Title	PERSONNEL	Function
Dr.Sci.	D.Poje	Head, Division of Meteorol. investigation
Dipl.ing.	Z.Jurčić	
Mr.Sci.	N.Šinik	
Mr.Sci.	E.Lončar	
Dipl.ing.	N.Pleško	
Dipl.ing.	Ž.Cindrić	

AP aims and actions

Meteorological measurements

Weather forecast

Analysis of precipitation and air pollution

Rain stimulation

Comments

Active in preparation of
technical and legislative
AP control measures

cont. Dipl.ing. G.Hrabah-Tumpa
Dipl.ing. V.Jung

YU	207	IND	A [✓ B] C [✓ D] E F	01 [✓ 02] 03 [✓ 04] 05	11 12 13 14 15	21 22 23 24 25	[✓ 31] [✓ 32] [✓ 33] [✓ 34] 35	L [✓ M] S	1 [✓ 2] 3	3.71.
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME: INSTITUT ZA ELEKTROPRIVREDU
INSTITUTE FOR ELECTRICITY

ACRONYM:

See also

ADDRESS:
41000 ZAGREB
Proleterskih brigada 37

Tel.: 513-822

AFFIL:

Title	PERSONNEL	Function
Dipl.ing.	J.Lucatti	research advisor
Dipl.ing.	H.Brkić	advisor
Dipl.ing.	E.Prištof	research officer
Dipl.ing.	V.Martinec	specialist
Dipl.ing.	M.Sarajlija	
2 part	time associates	and 1 NP

AP aims and actions:

Measurement and control of emissions in combustion processes

Efficiency testing of dust collectors

Participation in proposal of legislation

Study of efficient combustion

Comments:

Active in preparation of technical and legislatine AP control measures

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YU	208	REG	[✓ A] [✓ B] [✓ C] [✓ D] [✓ E] F	01 02 [✓ 03] [✓ 04] [✓ 05]	[✓ 11] 12 13 14 15	[✓ 21] [✓ 22] [✓ 23] [✓ 24] [✓ 25]	[✓ 31] [✓ 32] [✓ 33] [✓ 34] [✓ 35]	[✓ L] M S	1 2 [✓ 3]	6.71.
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date

NAME: ZAVOD ZA ISTRAŽIVANJE I RAZVOJ
DEPARTMENT FOR RESEARCH AND DEVELOPMENT

ACRONYM:

See also

ADDRESS:
41000 Zagreb
Radićev trg 3

Tel.: 33-741

AFFIL:
Institute for Safety

Title	PERSONNEL	Function
Dr.Sci.	T.Filipan	(chem.eng.) senior advisor
Dr.Iur.	B.Nadvornik	senior advisor
Dr.Med.	Đ.Sjerobabski	, spec.in occup.med.
Dipl.ing.	Z.Gomaz	(mech.)
Dipl.ing.	T.Atević	(mech.)
Dipl.ing.	V.Smolčić	(chem.)
Mr.Sci.	N.Zdravković	(chem.eng.)

AP aims and actions:

Chemical analysis of air pollutants predominantly in working environment

Comments:

Publishersofa monthly journal Safety in industry (Sigurnost u pogonu)

Active in preparation of technical and legislatine AP control measures

YU	2091	ND	[✓ A] [✓ B] C D [✓ E] F	01 [✓ 02] 03 04 05	11 12 [✓ 13] 14 15	21 22 23 24 25	[✓ 31] [✓ 32] [✓ 33] [✓ 34] 35	L [✓ M] S	1 [✓ 2] 3	3.71.	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: TVORNICA PARNIH KOTLOVA
STEAM BOILER FACTORY

ACRONYM

See also

ADDRESS
41000 ZAGREB
Žitnjak bb
Tel 645-855/355, 354
AFFIL

Title	PERSONNEL	Function
Prof.dr.	I.Turk	director, Development Service
Dipl.ing.	A.Kostelić	deputy director Development Service
Dipl.ing.	I.Librić	Head, Division for Standards
Dipl.ing.	D.Ilijaš[x]	Head, Group for construction of dust ~~collectors~~

AP aims and actions

Design and production of dust collectors

Comments

Active in preparation of technical and legislative AP control measures

[x] see also 003

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cont. Dipl.ing. J.Crnjac
+ 4 techn., 4 NP and part time coworker

YU	210		[✓ A] [✓ B] C D E F	01 [✓ 02] [✓ 03] [✓ 04] 05	11 12 13 14 15	21 [✓ 22] 23 24 25	31 32 [✓ 33] [✓ 34] [✓ 35]	L [✓ M] S	1 2 [✓ 3]	3.71.	S
Country	No.	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: INSTITUT ZA PROCESNU TEHNIKU
INSTITUTE FOR PROCESS ENGINEERING

ACRONYM:

See also

ADDRESS:

41001 ZAGREB
Trnjanski nasip bb
POBox 02-305
Tel.: 515-251

AFFIL:

Title	PERSONNEL	Function
Dipl.ing.	I.Pranič	(mech.)
Dipl.ing.	B.Lisičar	(chem.)
Dipl.ing.	L.Richter	(chem.)
Dipl.ing.	D.Flego	(mech.technol.)
Dipl.ing.	T.Palić	(technol.)
+ 2 techn. and 5 NP		

AP aims and actions:

Development of AP control devices within the frame of chemical engineering process design and efficiency testing

Comments:

YU	211	IND	[✓ A] B C D E F	[✓ 01] [✓ 02] 03 04 05	11 12 13 14 15	21 22 23 24 25	[✓ 31] 32 33 34 35	L M [✓ S]	1 2 [✓ 3]	6.71.	S
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: INA - PRERADA, SLUŽBA RAZVOJA
OIL REFINING Section, DEVELOPMENT SERVICE

ACRONYM:

See also

ADDRESS:

41000 ZAGREB
Šetalište Karla Marxa bb
Tel.: 517-000

AFFIL:

INA - Industrija nafte Zagreb

Title	PERSONNEL	Function
Dipl.ing.	J.Širola	Head, development of products
Dipl.ing.	M.Zambeli[x]	research officer

AP aims and actions:

Improvement of oil quality with the aim to reduce AP from stationary and mobile combustion sources

Comments:

[x] Member of a Committee for AP control, City of Zagreb

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
YU	212	MUN	A B C [✓ D] E F	01 02 03 04 05	11 12 13 14 15	21 22 23 [✓ 24] 25	31 32 33 34 35	L M [✓ S]	1 2 [✓ 3]	6.71.	S T

NAME: ZAVOD ZA ZAŠTITU ZDRAVLJA PULA
PUBLIC HEALTH INSTITUTE PULA

ACRONYM:

See also

ADDRESS:
52000 PULA
Nazorova 6
Tel: 21-51

AFFIL:

Title	PERSONNEL	Function
Dipl.ing.	B.Percan	(chem.)
+ 1	techn.	

AP aims and actions:

AP measurement in Pula (SO_2 and smoke) and Fažana (HF) to start 7.1.71.

Comments:

YU 301 ACD [✓ A] [✓ B] C [✓ D] E F 01 [✓ 02] 03 [✓ 04] 05 11 12 13 14 15 21 [✓ 22] 23 24 25 [✓ 31] [✓ 32] [✓ 33] [✓ 34] 35 [✓ L] M S [✓ 1] 2 3 3.71. 5
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ZAVOD ZA MEHANIČKU PROCESNU TEHNIKU
INSTITUTE FOR MECHANICAL PROCESS ENGINEERING

ACRONYM:
See also

ADDRESS:
71001 SARAJEVO
Omladinsko šetalište bb
Tel 46-555

AFFIL:
Faculty of Mechanical Engineering
Sarajevo University

Title	PERSONNEL	Function
Prof.	M.Krstić[x]	director of the Institute
Dipl.ing.	Ž.Bilić	(mech.), lecturer
Dipl.ing.	A.Knežević	(mech.), res.officer
Dipl.ing.	V.Pantić	(mech.), res.officer
Dipl.ing.	B.Ilić	(mech.), res.officer
Dipl.ing.	A.Jaganjac,	(chem.), res.officer
+ 3 techn.,	5 NP and 4	part-time accociates

AP aims and actions:

Granulometric analysis
Separation of particles from aerosols
Influence of fire-place construction and stoking technique on smoke emission
Measurement of smoke emission from various types of stoves as a basis for legislative control measures
Investigation and testing of dust collectors
Teaching

Comments:

[x]see also 003

YU 302ACD [✓ A] [✓ B] C D E F 01 [✓ 02] 03 04 [✓ 05] [✓ 11] 12 13 [✓ 14] 15 21 22 23 [✓ 24] 25 31 32 33 34 35 [✓ L] M S 1 [✓ 2] 3 3.71. 5
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INSTITUT ZA HIGIJENU I SOCIJALNU MEDICINU
INSTITUTE FOR HYGIENE AND SOCIAL MEDICINE

ACRONYM:
See also

ADDRESS:
71000 SARAJEVO
Koševska 5
Tel 37-666

AFFIL:
Medical Faculty
Sarajevo University

Title	PERSONNEL	Function
Prof.Dr.	G.Žarković	director of the Institute
Dr.	J.Jokić	assist. professor
Dr.	F.Čerkez	assist. professor
Dipl.ing.	G.Hasić	(chem.)
	F.Bašić	spec. in microbiol.
		lecturer
Dipl.chem.	B.Simić	lecturer
~~Dipl.chem.~~	~~F.Čustović~~	~~lecturer~~
+ 1P, 1NP and 2		part-time associates

AP aims and actions:

Comments:

Measuring concentration of cancerogenic substances and sulphuric acid in air
Health effects of AP
Determination of radioactive particles in air
AP measurements in working environment

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
YU	303	MUN	[✓ A] B C D [✓ E] F	01 02 03 04 05	[✓ 11] 12 13 14 15	21 22 [✓ 23] [✓ 24] 25	31 32 33 34 35	L [✓ M] S	1 [✓ 2] 3	3.71.	S

NAME: ZAVOD ZA ZDRAVSTVENU ZAŠTITU

PUBLIC HEALTH INSTITUTE

ACRONYM:

See also

ADDRESS:

71000 SARAJEVO
Vrazova 11

Tel 22-514

AFFIL:

Title	PERSONNEL	Function
Dipl.chem.	J.Alfirović	
Dipl.chem.	V.Lužar	
Dipl.biol.	M.Milutinović,	health statistician
Dr.Med.	A.Sefo	specialist
+ 2	senior techn.	

AP aims and actions:

Measurement of SO_2 and smoke in the atmosphere of Sarajevo

Health effects of AP

Comments:

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
YU	304	REG	[✓ A] [✓ B] C D E F	01 02 03 04 05	11 [✓ 12] 13 14 15	21 22 [✓ 23] [✓ 24] [✓ 25]	31 32 33 34 35	L [✓ M] S	1 2 [✓ 3]	3.71.	S

NAME: REPUBLIČKI HIDROMETEOROLOŠKI ZAVOD

INSTITUTE OF METEOROLOGY AND HYDROLOGY OF S.R. BOSNA AND HERCEGOVINA

ACRONYM:

See also

ADDRESS:

71001 SARAJEVO
Hadži loje 8

Tel.: 34-765 or 34-766

AFFIL:

Federal Service of
Meteorology and Hydrology

Title	PERSONNEL	Function
Dipl.ing.	Z.Mićević	director of the Institute
Dipl.meteor.	M.Sofilj	
Dipl.ing.	I.Dobrovoljac	
Dipl.ing.	Z.Bašagić	
Dipl.meteor.	N.Jankov	
+ 6	part-time assoc., 6 tech., and 3 NP	

AP aims and actions:

Comments:

YU 305MUN ~~A~~ B C ~~D~~ E F 01 02 ~~03~~ ~~04~~ ~~05~~ 11 12 13 14 15 21 ~~22~~ ~~23~~ ~~24~~ ~~25~~ 31 32 33 34 35 L ~~M~~ S 1 2 ~~3~~ 3.71.

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: **ZAVOD ZA ZAŠTITU NA RADU**

OCCUPATIONAL SAFETY ESTABLISHMENT

ACRONYM:

See also

ADDRESS:

75000 TUZLA
Husinskih rudara 571

Tel.: 33-011

AFFIL.:
Institute for Mining and Chemical Technology, Tuzla

Title	PERSONNEL	Function
Dipl.ing.	J.Moravek	assist.prof., head of the establishment
Dipl.ing.	A.Bišćević	head of establ. for design and thermo-technique
Dipl.ing.	E.Atić	(mech.), officer
Dipl.ing.	S.Saračević	(min.), officer
+ 5 part-time assoc. and 3 techn.		

AP aims and actions:

Contribution of chemical industry, combustion processes and motor car exhausts to AP

Comments:

YU 306 REG ~~A~~ B C D E F 01 02 03 04 05 ~~11~~ 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M ~~S~~ 1 2 ~~3~~ 3.71. S

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ZAVOD ZA TUBERKULOZU

INSTITUTE FOR TUBERCULOSIS

ACRONYM:

See also

ADDRESS:

71001 SARAJEVO
Dositijeva 6

Tel.: 33-557

AFFIL.:

Executive Council of S.R. Bosna and Hercegovina

Title	PERSONNEL	Function
Dr.Med.	B.Tanasković	chief physician, spec.in lung diseases
Dr.Med.	A.Čado-Roubić	spec.in lung diseases
+ 2	med.techn. and	
2	part-time associates	

AP aims and actions:

Investigation of AP effects on respiratory organs

Comments:

YU 307 ACD A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.71.
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LABORATORIJ ZA FIZIOLOGIJU BILJAKA
LABORATORY OF PLANT PHYSIOLOGY

ACRONYM:
See also

ADDRESS:
71001 SARAJEVO
Zagrebačka 18
Tel 39-466 and 39-467

AFFIL:
Faculty of agriculture
University of Sarajevo

Title	PERSONNEL	Function
Prof.dr.	M.Bašović	head of the Laboratory
Dipl.ing.	V.Prica	assist. professor
Prof.dr.	V.Vaclav	
Dipl.ing.	M.Marković	lecturer
Dipl.ing.	E.Velagić	(chem.)

1 P, 4 part-time associates and 4 NP

AP aims and actions:

Investigation of AP effect on plants

Comments:

YU 308 IND A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: METALURŠKI INSTITUT "HASAN BRKIĆ" ZENICA
INSTITUTE OF METALLURGY "HASAN BRKIĆ" ZENICA

ACRONYM:
See also

ADDRESS:
72000 ZENICA
Matije Gupca bb
Tel 21-989

AFFIL:

Title	PERSONNEL	Function
Dr.Sci.	M.Horgas	(chem. eng.)
Dipl.ing.	Z.Horgas	(chem.)
Dipl.ing.	A.Juvan	(mech.)
Dipl.ing.	J.Klicić	(mech.)
Dipl.ing.	M.Pašić	
Dipl.ing.	M.Tomljanović	(chem.)

and part time assoc.

AP aims and actions:

AP problems in metallurgy

Comments:

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date
YU	401	MUN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	3.71.

NAME: INSTITUT ZA HIGIJENU

INSTITUTE OF HYGIENE

ACRONYM:

See also

ADDRESS:
11000 BEOGRAD
Dr. Subotića 5

Tel: 25-341

AFFIL:
Public Health Institute
of S.R. Srbija

Title	PERSONNEL	Function
Dr.Med.	S.Đorđević	assist.prof., head of the Institute
Dipl.ing.	T.Bošković	(chem.), chief division of AP
Mr.Sci.	P.Todorović	(MD) chief div. of traffic med.
Dr.Med.	N.Radoman	chief div. of urban pathology

AP aims and actions:

Health effects of AP
Influence of traffic AP and noise on urban environment
AP effects on plants and regeneration of devasted areas
AP measurements and source identification
Introduction and application of new methods of measurement
Keeping record of AP sources in Srbija
Giving expert opinion on location of industry
Participating in legislation proposal
Training of personnel engaged in AP studies

Comments:

cont.

Title	PERSONNEL	Function
	Lj.Mihajlović,	chief div. for sanit.-biol.techn.
Dr.Med.	V.Radmilović	
+ 6 techn. and 6 NP		

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	
YU	402	MUN	A B C D E F	01 02 03 04 05	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L M S	1 2 3	3.71.	S

NAME: GRADSKI ZAVOD ZA ZDRAVSTVENU ZAŠTITU BEOGRAD

PUBLIC HEALTH INSTITUTE BEOGRAD

ACRONYM:

See also

ADDRESS:
11000 BEOGRAD
29 Novembra 54-a

Tel.: 337-351 ext. 40 or 41

AFFIL:

Title	PERSONNEL	Function
Dr.Med.	Lj.Perunčić	spec. in occup.health
Dipl.ing.	R.Plavšić	spec. in industr.hyg.
+ 1	technician	

AP aims and actions:

AP measurement in Beograd (SO_2 and smoke)

Participation in AP Committee of the city of Beograd

Reorganization in progress. Intensive studies of AP problems in the city of Belgrade to be carried out in the near future.

Comments:

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date
YU	403	REG	~~A~~ B C ~~D~~ E F	01 02 ~~03~~ ~~04~~ ~~05~~	11 12 13 14 15	21 22 23 24 25	31 32 33 34 35	L ~~M~~ S	1 ~~2~~ 3	3.71.

NAME INSTITUT ZA TEHNOLOGIJU NUKLEARNIH I DRUGIH MINERALNIH SIROVINA

INSTITUTE FOR TECHNOLOGY OF NUCLEAR AND OTHER MINERAL RAW MATERIALS

ACRONYM:

See also

ADDRESS:
11000 BEOGRAD
Franša D'Epere-a 86

Tel 23-501

AFFIL

Title	PERSONNEL	Function
Dipl.ing.	M.Kačarević*	(chem.) principal investigator, president of expert committee
Dipl.ing.	S.Protić	(mech.) member of expert committee
Dipl.ing.	Ž.Đorđević	(mining.) member of expert committee
Dipl.ing.	R.Mirković	(chem.) res.officer

AP aims and actions:

Study of dispersion and transport of aerosols
Investigation and development of methods for studing emissions from industrial sources
Expert opinions on safety measures in Industry

Comments:

*see also 003

cont. Dipl.ing. V.Vrga (chem.) research officer

+ 2 techn.

Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date		
YU	404	REG	~~A~~ ~~B~~ C ~~D~~ E F	~~01~~ ~~02~~ ~~03~~ ~~04~~ ~~05~~	~~11~~ ~~12~~ 13 14 15	21 22 23 ~~24~~ ~~25~~	31 32 33 34 35	L ~~M~~ S	1 ~~2~~ 3	6.71.	S	T

NAME SEKTOR ZA HIGIJENU RADA

INDUSTRIAL HYGIENE SECTION

ACRONYM

See also

ADDRESS
11000 BEOGRAD
Deligradska 29

Tel 21-772

AFFIL
Institute for Occupational Medicine and Radiological Protection of the S.R. Srbija

Title	PERSONNEL	Function
Dr.Med.	S.Popović	spec.occup.med. section head
Dr.Med.	H.Milivojević,	spec.occup.med.
Dipl.ing.	V.Đuknić	spec.sanit.eng.
Dipl.ing.	Lj.Jablanov	(geol.)

AP aims and actions

Investigation of working conditions, early diagnosis and prevention of occupational diseases

Investigation of the pollution of the total environment by heavy metals

Measurement of emissions from motor vehicles, combustion, chemical and metallurgical processes

Participation in legislation proposal

Comments:

YU 405REG [✓ A] [✓ B] [✓ C] [✓ D] [✓ E] F 01 02 03 04 [✓ 05] [✓ 11] [✓ 12] 13 14 [✓ 15] [✓ 21] 22 [✓ 23] [✓ 24] [✓ 25] 31 32 33 34 35 [✓ L] M S 1 [✓ 2] 3 3.71ž
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LABORATORIJA ZA ZAŠTITU OD ZRAČENJA
LABORATORY OF RADIOLOGICAL PROTECTION

ACRONYM:
See also

ADDRESS:
11001 BEOGRAD
POB 522
Tel 440-871 ext. 621 and 725

AFFIL:
Institute for Nuclear Sciences
"Boris Kidrič" Vinča
Subdivisions: a/ Environment, b/ Meteorology and c/ Safety

Title	PERSONNEL	Function
Mr.Sci.	D.Patić	(dipl.phys.)
Mr.Sci.	R.Smiljanić	(dipl.phys.)
Dipl.chem.	T.Tasovac	
Dipl.chem.	R.Radosavljević	
Dipl. meteor.	D.Stojanović	
Dipl.ing.	S.Mitrović^x	(electr.) senior res. officer
+ 8 techn., 4 NP		

AP aims and actions:

Radiological protection and safety in nuclear operations
Effect of meteorological and technical factors on transport, dispersion, settment of radioactive efluents (natural, normal, accidental or from nuclear explosions) as well as the effect on man and its environment
Participation in legislation proposals

Comments:
^{x}see also 003

YU 405REG [✓ A] B C [✓ D] [✓ E] F 01 02 [✓ 03] 04 [✓ 05] [✓ 11] [✓ 12] [✓ 13] 14 15 21 22 [✓ 23] 24 [✓ 25] 31 32 33 34 35 L [✓ M] S 1 2 [✓ 3] 3.71
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: LABORATORIJA ZA MEDICINSKU ZAŠTITU INSTITUTA
LABORATORY FOR MEDICAL PROTECTION OF THE INSTITUTE

ACRONYM:
See also

ADDRESS:
Vinča - 11001 BEOGRAD
POB 522
Tel 440-871 ext. 311

AFFIL:
Institute for Nuclear Sciences
"Boris Kidrič" - Vinča

Title	PERSONNEL	Function
Dr.Med.	Z.Đukić	head of the Laboratory
Dr.Med.	M.Trajković	officer
Dipl.chem.	Z.Ubović	officer
Dr.Med.	D.Stojanović	, officer
+ 9 P, 9 techn. and 3 NP		

AP aims and actions:

Health effects and safety aspects of occupational, nonoccupational and experimental radiation exposure, external or internal, body burden, metabolism of radionuclides; diagnostic prevention and therapy

Comments:

YU 405REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.71. S
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ODELENJE ZA PROIZVODNJU RADIOAKTIVNIH IZOTOPA I
ODELENJE ZA REAKTORSKU EKSPERIMENTALNU TEHNIKU
DEPARTMENT FOR PRODUCTION OF RADIOACTIVE ISOTOPES and
DEPARTMENT FOR EXPERIMENTAL REACTOR TECHNIQUE

ACRONYM:
See also

ADDRESS:
11001 BEOGRAD
POB 522

Tel: 440-871 ext. 683 and 490

AFFIL:
Institute for Nuclear Sciences
"Boris Kidrič" Vinča

Title	PERSONNEL	Function
Dr.Sci.	O.Jovanović-Kovačević	(chem.eng.) research assoc.
Dipl.chem.	B.Radosavljević,	senior research officer
Dipl.ing.	S.Živković	(mech.) res.officer
Dipl.ing.	K.Mihajlović	(electr.) senior research officer
Dipl.ing.	O.Nešić	(metall.) jun. res. officer

+ 2 techn., 2 NP

AP aims and actions:

Testing the efficiency of filtering materials
by means of ^{24}NaCl aerosol
Generation and granulometric analysis of
aerosols

Comments:

YU 406REG A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 3.71.
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ZAJEDNICA ZAVODA ZA ZAŠTITU NA RADU
THE ASSOC.OF THE INSTITUTES FOR LABOR PROTECTION

ACRONYM:
See also

ADDRESS:
18000 NIS
Voždova 11

Tel 21-160

AFFIL:

Title	PERSONNEL	Function
Dipl.ing.	R.Mihajlović	(mech.)
Dipl.ing.	M.Drezgić	(mech.)
Dipl.ing.	T.Petković	(mech.)
Dipl.ing.	D.Jovanović	(mech.)
Dipl.ing.	B.Nikolić	(chem.)
Dipl.ing.	V.Joksimović	(physisist)

+ 5 P and 8 techn. assist.

AP aims and actions:

Engaged in all activities concerning occupational safety, covering also some AP control problems, within Serbia and Bosnia
Taking part in undergraduate education

Comments:

YU	407	MUN	A B C [✓ D] E F	01 02 03 04 05	[✓ 11] 12 13 14 15	21 22 23 [✓ 24] 25	31 32 33 34 35	L [✓ M] S	1 [✓ 2] 3	6.71.	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: ZAVOD ZA HIGIJENU I MEDICINU RADA
DEPARTMENT FOR HYGIENE AND OCCUPATIONAL MEDICINE

ACRONYM:

See also

ADDRESS:
21000 NOVI SAD

Tel:

AFFIL:
Public Health Institute of
Novi Sad

Title	PERSONNEL	Function
Dr.Med.	M.Mihajlović	
Dipl.ing.	R.Savić	
Dipl.Chem.	D.Đulizibarić, spec.in biochem.	
+ 1	senior techn.	

AP aims and actions:

Discontinuous measurement of AP (dustfall, SO_2 and smoke) in Novi Sad.

Regular survey starting from 7.1.71.

Comments:

YU	408	MUN	[✓ A] B C [✓ D] E F	[✓ 01] [✓ 02] [✓ 03] [✓ 04] [✓ 05]	[✓ 11] 12 13 14 15	21 22 [✓ 23] 24 [✓ 25]	31 32 33 34 35	L [✓ M] S	1 [✓ 2] 3	6.71.	S T
Country	No	Type	Functions	Sources	Effects	Controls	Remedies	Size	Status	Date	

NAME: INSTITUT ZA HIGIJENU, EPIDEMIOLOGIJU I MIKROBIOLOGIJU
INSTITUTE FOR HYGIENE, EPIDEMIOLOGY AND MICROBIOLOGY

ACRONYM

See also

ADDRESS:
18000 NIŠ
Braće Taskovića 50

Tel: 31-322

AFFIL
Medical Faculty, Niš

Title	PERSONNEL	Function
Dr.Med.	Z.Jevtić	assist.prof.
Dr.Med.	Ž.Kostić	lecturer
Dipl.Chem.	D.Simović	
Dipl.ing.	S.Ljubisavljević, consultant for town planning	
+ 2	senior techn. and 2 techn.	

AP aims and actions:

Investigation of health effects and AP measurements (dustfall, SO_2, smoke, analysis of exhaust gases and noise)

Comments:

V. INTERNATIONAL ORGANIZATIONS

International organizations concerned with air quality conservation fall into three basic categories:

1. Specialized agencies of the United Nations;
2. Bodies set up by regional groups of governments;
3. Nongovernmental bodies.

In all these organizations, the air management activities are generally only a part of broader programs, often directed toward the solution of social or general environmental problems.

The Economic Commission for Europe (ECE) is a regional commission of the United Nations. Its mandate embraces economic development and trade (it differs from the Organization for Economic Cooperation and Development in having membership from both eastern and western Europe). The ECE is primarily concerned with problems of trade, but it has also developed control measures for vehicle emissions as well as beginning a study of the problems of coordinating construction standards. In addition, it has made economic studies on the cost and benefit of air pollution control techniques and on economic losses resulting from pollution. The ECE Council set up a Working Party on Air Pollution in 1968 to review trends, developments and government policies, to investigate air pollution control and the amelioration of problems, and to promote information exchanges. X.011

This Working Party has analyzed current problems in member countries, based on replies to questionnaires. Principal sources of air pollution have been listed, together with recognized effects and estimates of the economic consequences. Recommendations for ECE action have still to be formulated. Areas of greatest concern, however, appear to be:

1. Problems associated with the desulfurization of fuels;

2. The economic impact of both emissions and the control of emissions;

3. The effects of pollution on vegetation, materials and people; and

4. The development of methodology to assess air pollution in economic terms.

Another important group in ECE is Working Party 29 of the Inland Transport Committee. This group prepared the model regulations for the control of vehicle emissions which have been adopted as standard by all the EEC ("Common Market") countries. X.011

Both the Natural Sciences and the Social Sciences Chapters of UNESCO have projects to combat environmental pollution. Following the recommendations of the 1968 Biosphere Conference, which examined the use and conservation of resources of the biosphere on a scientific basis, the Natural Sciences Chapter is preparing a long-term intergovernmental and interdisciplinary program on such use of the natural environment. The Social Sciences Chapter project, which will provide one of the major themes of UNESCO's future program, is the launching of a 10-year activity entitled "Man and his Environment - Design for Living." X.007

The World Health Organization and the World Meteorological Organization are concerned with health and meteorological aspects of environmental pollution. Both have special committees for air pollution problems. X.008 X.009

Among regional governmental groupings, the Council of Europe has a dual role--as an international forum for parliamentarians and as a promoter of programs that (like those for the ECE) relate to administrative and legal issues. Its European Committee for the Conservation of Nature and Natural Resources aims to secure international conventions to protect the environment. It promoted the European Conservation Conference in 1970. X.001
The Council of Europe's Committee of Experts on Air Pollution examines air pollution issues, submits recommendations to governments on standards, X.002

international problems, and national policies. Its draft Declaration of Principles on Air Pollution Control was approved by the Committee of Ministers in 1968 on behalf of all member governments.

The Organization for Economic Cooperation and Development (OECD) has a mandate to promote economic development. Its members are 19 'Western' European countries, together with Canada, Japan and the United States.
The OECD Environmental Committee is responsible for a wide range of studies X.003
in the environmental area. Its Air Management Sector Group is responsible X.004
for coordinating air pollution research, including work by two Ad-hoc
Groups. It also supervises the work of the Joint Group on Air Pollution X.005
from Fuel Combustion, which is currently preparing a study of emissions from stationary sources from reports prepared by member governments. In recent years, the OECD, always concerned with the economic aspects of potential government actions, has been less involved in the actual coordination of scientific research and development. It has concentrated more on the scientific information that governments need in order to reach policy decisions, and it deals increasingly with the economic implications of environment management, not just pollution.

The North Atlantic Treaty Organization (NATO), through its Committee
on the Challenges of Modern Society, is now concerned with practical im- X.005
provements to create a better environment for society.

The Commission of the European Communities, which includes the European
Economic Community (EEC), has set up a working party (Politique de la
Recherche Scientifique et Technique) to make recommendations for cooperative X.016
action in several sectors, with possible participation by non-EEC countries. One such proposal, entitled Nuisances, concerns air pollution from sulfur compounds, biological indicators for pollutants, and emissions from motor vehicles and domestic appliances. The 5-year Plan for the Community's research centers provides for work on pollution problems.

Also established under an initiative from the Commission of the
European Communities is COST, the organization for European Cooperation X.017

in Scientific and Technical Research. This body is undertaking technical studies of such problems as fuel desulfurization processes. Accordingly, it provides a technical complement to the economic work of the OECD Joint Group on Air Pollution. X.005

Nordforsk, the Scandinavian organization for technical scientific research, operates under the guidance of the Nordic Council. This organization provides a forum for cooperation in a wide variety of research activities, including pollution control. X.018

Another technically oriented group, the International Meteorological Institute at Stockholm, has long experience in the collation of European meteorological and other data related to air pollution; a network of background stations throughout Europe provides the data, published in 'Tellus.' A report describing changes in pH of rainfall over Scandinavia over a period of years was published in 1967. X.010

An international biological program has been established by the International Council of Scientific Unions (ICSU) in collaboration with UNESCO. ICSU has recently set up a Special Committee on Problems of the Environment to examine the environmental aspects of the biological program in greater detail. X.021

The major oil companies in Western Europe have established a coordinating group, Stichting CONCAWE, in the Hague to handle information on environmental problems and to promote studies in members' laboratories and at other research centers. An extensive bibliography is maintained, and specialist reports issued from time to time. X.022 The automobile manufacturers are similarly represented in BPICA (Bureau Permanent International des Constructeurs d'Automobiles). X.025

Both the oil and car industries are represented on CEC (the Coordinating European Council for the Development of Performance Tests for Lubricants and Engine Fuels). X.026 This body prepares technico-economic studies of such problems as the reduction of vehicle emissions, as well as developing suitable test

procedures. Its views, presented through BPICA to the ECE Transport X.025
Committee, were used in the preparation of the ECE regulations on vehicle X.011
emissions.

The International Union of Air Pollution Prevention Associations X.023
was set up in 1964 to provide a coordinating center for national clean air societies throughout the world. As the principal nongovernmental body specifically concerned with air pollution, it is designed to provide a focal point for national bodies of this type and so to present a worldwide view of public opinions regarding air quality conservation.

APPENDIX

LISTS OF COUNTRIES ADHERENT TO VARIOUS INTERNATIONAL ORGANIZATIONS

Council of Europe, Strasbourg

Austria
Belgium
Cyprus
Denmark
France
Germany (BRD)
Iceland
Ireland
Italy
Luxembourg
Malta
Netherlands
Norway
Sweden
Switzerland
Turkey
United Kingdom

UN Economic Commission for Europe, Geneva

Albania
Austria
Belgium
Bulgaria
Byelorussian SSR
Cyprus
Czechoslavakia
Denmark
Finland
France
Germany (BRD)
Greece
Hungary
Iceland
Ireland
Italy
Luxembourg
Malta
Netherlands
Norway
Poland
Portugal
Romania
Spain
Sweden
Turkey
Ukrainian SSR
USSR
United Kingdom
United States
Yugoslavia

Organization for Economic Cooperation and Development, Paris

Austria
Belgium
Canada
Denmark
Finland
France
Germany (BRD)
Greece
Iceland
Ireland
Italy
Japan
Luxembourg
Netherlands
Norway
Portugal
Spain
Sweden
Switzerland
Turkey
United Kingdom
United States
*Australia
*Yugoslavia

*Special status.

NATO Committee on the Challenges of Modern Society, Brussels

Belgium
Canada
Denmark
France
*Germany (BRD)
Greece
Iceland
Italy
Luxembourg
Netherlands
Norway
Portugal
*Turkey
United Kingdom
*United States

*Undertaking survey of air pollution.

European Economic Community, Brussels

Belgium
France
Germany (BRD)
Italy
Luxembourg
Netherlands

Also 36 Associated States, Departments and Territories.
Applications for full membership pending for Denmark, Ireland, Norway, United Kingdom.

European Cooperation in Scientific and Technical Research, Brussels

Austria
Belgium
Denmark
Finland
France
Germany (BRD)
Iceland
Ireland
Italy
Luxembourg
Netherlands
Norway
Portugal
Spain
Sweden
Switzerland
Turkey
United Kingdom

Nordic Council - Nordforsk, Stockholm

Denmark
Finland
Iceland
Norway
Sweden

Y (M) A ~~B~~ C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 ~~L~~ M S ~~1~~ 2 3 5.70 S I

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME COUNCIL OF EUROPE

Cttee. for the Conservation of Nature and Natural Resources

ACRONYM

See also X.002

ADDRESS [illegible],
F-67 STRASBOURG

Tel.

AFFIL.

Title	PERSONNEL	Function
Mr.	R. E. Boote	Chairman (NERC - GB.031)
Mr.	K. H. Wertzel	liaison with Cttee of Expert (X.002).

AP aims and actions

[illegible] to protect the environment [illegible] problems.

Organized European Conservation Year 1970, and the associated European Conservation Conference.

Comments

[illegible] the [illegible] role of the Cttee of Experts X.002.

[illegible] Council of Europe, Conservation [illegible] 5.70

Y ... A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 4.70 S T

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME COUNCIL OF EUROPE

[illegible]

ACRONYM

See also

ADDRESS [illegible]
F-67 STRASBOURG

Tel.

AFFIL.

Title	PERSONNEL	Function
[illegible]	[illegible]	Chairman
	1 representative from each of 17 European nations	

AP aims and actions

Examines air pollution problems with a view to drafting recommendations to governments on standards, [illegible], and [illegible].

Encourages [illegible] international cooperation in environmental management.

[illegible] identified and listed [illegible].

Comments

[illegible] Council of Europe, Committee of Experts on Air [illegible]

X 003 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT
Environmental Committee

ACRONYM O E C D

See also X.004 X.005

ADDRESS Environmental Directorate,
2 rue André Pascal,
75775 PARIS 16.

Tel [illegible]

AFFIL Governments of [illegible] countries.

Title	PERSONNEL	Function
Mr.	Christian Herter US	Chairman
Mr.	Frederic Walthard CH	
Mr.	Hiromichi Miyazaki J	
Mr.	Olivier Manet F	
Mr.	Gunnar Seidenfaden DK	
Mr.	J. A. Cochrane	Secretariat
Mr.	J. A. Haines	

AP aims and actions

To study the problems connected with the preservation or improvement of the environment, including the economic and commercial implications, and to suggest solutions. To review the actions and proposals of member countries. To suggest how research results can be effectively used.

Comments

As of 7.70 the Sub-Committee for Research Cooperation coordinates work of Air Management Sector Group (X.004) and Joint Gr. on AP from Fuel Combustion (X.005).

X.003 OECD Environmental Committee 7.71

X 004 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71 S 1

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME OECD Air Management Sector Group

ACRONYM A M S G

See also X.003

ADDRESS Environmental Directorate,
2 rue André Pascal,
75775 PARIS 16.

Tel 524.82.00

AFFIL OECD Environmental Committee
(X.003).

Title	PERSONNEL	Function
Dr.	[illegible]	Chairman
Mr.	J. A. Cochrane	Secretariat
Mr.	J. A. Haines	

AP aims and actions

To identify and promote cooperative research for effective air pollution control.
To review and test alternative policies; to develop informative programmes.

Comments

Coordinates the activities of two ad-hoc Groups: on Long-Range Transport of Air Pollutants; on Fluoride Emissions from Primary Aluminium Smelting.

X.004 OECD Air Management Sector Group

X 00[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71 S 1

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME OECD [illegible] Group on AP from Fuel Combustion

ACRONYM

See also X.007

ADDRESS Environmental Directorate,
2 rue André Pascal,
F-75 PARIS 16e.

Tel [illegible]

AFFIL OECD Environmental Committee
(Paris).

Title	PERSONNEL	Function
Mr.	C. A. Cochrane	Secretariat
Mr.	J. A. Baines	

AP aims and actions

[illegible]

Comments

Set up 4.70 with the participation of the [illegible] Cttee, the Special Cttee for [illegible], and the Cttee for Research [illegible] from the Envtl Cttee X.007).

[illegible] to report to member govts by mid-[illegible] possible programmes for action against AP.

[illegible] 7.71

[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 [illegible] S 1

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME NATO [illegible] on the Challenges of Modern Society

ACRONYM CCMS

See also

ADDRESS Scientific Affairs Division,
NATO,
[illegible],
[illegible].

Tel [illegible]

AFFIL NATO

Title	PERSONNEL	Function
[illegible]	[illegible]	Secretariat [illegible]

AP aims and actions

[illegible] internationally [illegible] of [illegible] pollution [illegible].
To establish pilot studies undertaken by one or more countries into specific aspects of pollution.
To form action-oriented groups rather than research or administrative bodies, so that concrete action may be taken to correct adverse situations.
[illegible] information on [illegible] aspects of envtl polln.

Comments

[illegible].
[illegible] Study of ambient air pollution set up by Germany, Turkey and USA (see also D.[illegible]).

[illegible] 7.71

Z 007 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 / M S 1 2 3 7.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME UNITED NATIONS EDUCATIONAL, SCIENTIFIC & CULTURAL ORGANIS'N

ACRONYM U N E S C O

See also

ADDRESS [illegible] de Fontenoy,
F-75 PARIS 7.

Tel. [illegible]

AFFIL United Nations

Title	PERSONNEL	Function

AP aims and actions

[illegible] programme "Man and his Environment". [illegible] environmental [illegible] heavy metals and other [illegible]

Comments

[illegible] an international coordinating council.
Cooperates with other UN agencies (e.g. FAO, WHO, WMO...).

[illegible] 7.71

Z 007 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 / M S 1 2 3 7.71 7.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME WORLD HEALTH ORGANIZATION, Div. of Environmental Health
[illegible] Air Pollution

ACRONYM W H O

See also

ADDRESS Avenue Appia,
CH-1211 GENEVA.

Tel. [illegible]

AFFIL United Nations

Title	PERSONNEL	Function
Dr.	R. Pavanello	Secretary
Mr.	G. Zanghi	
Dr.	K. Smoukhanova	

AP aims and actions

International monitoring network set up in '70 to determine worldwide background levels of [illegible]; participating centres in London and Washington; regional centres in Moscow, Nagpur & Tokyo; [illegible]. Monitoring to be extended to pollutants of local significance.
Prepares monographs on measuring [illegible].
Undertakes research into and reviews the health effects of AP through long-term studies.
Gives assistance to individual countries initiating national services of AP etc.

Comments

[illegible] Expert Advisory Panel on AP

X 005 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME WORLD METEOROLOGICAL ORGANIZATION
Wkg. Gp. on Atmospheric Pollution and Atmospheric Chemistry

ACRONYM W.M.O.
See also

ADDRESS 41 ave Giuseppe Motta,
CH-[illegible] GENEVE.

Tel 34.64.00

AFFIL. United Nations

Title	PERSONNEL	Function
Dr.	F. H. Schmidt	Chairman
	W.M.O. Prasanov	WMO Secretariat
	H.W. Kr[illegible]	" "

AP aims and actions

Studies meteorological problems associated with AP and recommends programmes of research to members of WMO (ex. setting up a network of geophysical stations to determine trends in global pollution and to sample [illegible] AP climatology).

Comments

X.005 W.M.O. Wkg. Gp. on AP and Atmos. Chem. 5.70

X 00[illegible] A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 11.69 S 1
Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME INTERNATIONAL METEOROLOGICAL INSTITUTE

ACRONYM
See also X.00[illegible]

ADDRESS [illegible] 41,
S-[illegible] STOCKHOLM.

Tel [illegible] 34.09.60

AFFIL W.M.O. [illegible]

Title	PERSONNEL	Function
Prof.	B. Bolin	director, & Dynamic Meteorology
Dr.	R. Eriksson	Atmos. Chem. division.
Dr.	G. Witt	Upper Air Physics division.
Dr.	B. Döös	Dynamic Meteorology division.
	G. Walin	Hydrodynamics division.
Civ.Ing.	L. Granat	assistant to Dr.Eriksson.
Kem.Ing.	L. Lundgren	aircraft sampling.
Dr.	W. Bischof	CO_2 measurements.

AP aims and actions

Coordination and collation of air and rainfall analyses throughout Europe for 10yr, in close cooperation with national met. insts. and WMO (who recommend continuation to measure background pollution levels).
Beginning compilation of air trajectories; plan sampling from light planes (cf. [illegible].004) for pollutant transport studies. Several years measuring CO_2 from commercial planes (support from S. Nat. Sci. Res. Col. at S.Kr.[illegible]/yr [illegible]).
Upper Air Phys. div. developing scattering techniques for relationship of AP to noctilucent clouds.

Comments

Admin. by Stockholm Univ. but has own Board for programming. Also financed by S Naturvårdsverk ([illegible] S.Kr. 270 000/yr [illegible] for foreign scholars).
Publishes widely, esp. in 'Tellus' (Q'ly, ed. Prof. Bolin; S. Phys. Soc.).

X.00[illegible] International Meteorological Institute 11.69

Y 011 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 X M S X 2 3 [illegible] S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM [illegible]

See also

ADDRESS [illegible]

PERSONNEL Function

Tel

AFFIL [illegible]

AP aims and actions [illegible]

Comments [illegible] ments.

Y A B C D E F 34 35 X M S 1 X 3 S T
Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

ACRONYM [illegible]

See also

ADDRESS [illegible]

PERSONNEL Function

Tel

AFFIL [illegible]

AP aims and actions [illegible]

Comments

X 013 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: ECONOMIC COMMISSION FOR EUROPE
Environment and Housing Division : Wkg Party on AP Problems

ACRONYM: E C E
See also

ADDRESS: Palais des Nations,
CH-1211 GENÈVE 10.

Tel

AFFIL: United Nations.

Title	PERSONNEL	Function
Mr.	A. Pichler-Stainern	Secretariat-contact.

AP aims and actions:

To review trends, developments and government policies, to investigate air pollution control and amelioration problems, and to promote information exchanges.

Undertakes cooperative studies and organises seminars on particular AP problems, e.g. the technology and economics of the desulphurisation of fuels and combustion gases.

Identifies major sources of AP, their effects, and the appropriate administrative control arrangements.

Comments:

Set up in 1969.

Has responsibility for implementing the comprehensive ECE programme on AP control.

X.013 E C E , Envt & Hsg Div., Wkg Party on AP Problems 7.71

X 016 A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: EUROPEAN ECONOMIC COMMUNITY
Politique de la Recherche Scientifique et Technique

ACRONYM: EEC - 'PREST'
See also

ADDRESS: 4 Boulevard de l'Empereur,
BRUSSELS,
Belgium.

Tel

AFFIL: 'Common Market'.

Title	PERSONNEL	Function
Mr.	Pierre Aigrain	chairman

AP aims and actions:

Recommends areas for cooperative research, including proposals for the abatement of air pollution from sulphur compounds, biological indicators for pollutants, and emissions from motor vehicles and domestic appliances.

Develops plans for joint scientific projects of all types, incl. data processing, new transportation, &c.

Comments:

Often known as the 'Aigrain Cttee'.

Reports to the Economic Policy Cttee of the Commission of European Communities.

X.016 E E C 'PREST' (Aigrain Cttee). 7.71

X 017 [illegible] A [illegible] I M S 7 2 | 3 7.71 S 7

Country No. Type [illegible] Size Status Date

NAME [illegible]

ACRONYM [illegible]

ADDRESS [illegible]

Tel

AFFIL [illegible]

AP aims and actions

[illegible]

[illegible]

Country No. Type [illegible] Size Status Date

NAME [illegible]

ACRONYM

ADDRESS [illegible]

Tel

AFFIL

AP aims and actions

[illegible]

Y 020 ASN A [✓ B] C D E [✓ F] 01 02 [✓ 03] 04 05 11 12 13 14 15 21 22 23 24 25 31 32 [✓ 33] [✓ 34] [✓ 35] [✓ L] M S 1 [✓ 2] 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: EUROPEAN FEDERATION OF CHEMICAL ENGINEERING
Working Party on AP

ACRONYM E F C E

See also

ADDRESS: The Inst. of Chem. Engrs,
16 Belgrave Square,
LONDON SW 1.

Tel (01) [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	J. R. Ireland	Chairman
Dr.	D. Hill	Secretary

AP aims and actions:
To identify and examine AP problems arising from chemical process industries. To study available means of controlling or [illegible] emissions or effluents which arise from such processes. To prepare list [illegible] of organisations working on AP problems in Europe.

Comments

Y.020 European Federation of Chemical Engineering

Y 021 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 5.70 S T

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS
Special Committee on Problems of the Environment

ACRONYM I C S U

See also

ADDRESS: 7 Via Cornelio Celso,
I-00161 ROMA.

Tel [illegible]

AFFIL

Title	PERSONNEL	Function
Mr.	F.W.G. Baker	Executive Secretary

AP aims and actions:
To consider those problems of the environment towards the solution of which the scientific competence represented by the ICSU can be effectively applied.

Comments:
Cooperates with [illegible].

Y.021 International Council of Scientific Unions 5.70

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible] PREVENTION ASSOCIATIONS

ACRONYM [illegible]

See also

ADDRESS [illegible]

Tel [illegible]

AFFIL [illegible]

Title	PERSONNEL	Function
[illegible]	[illegible]	President
[illegible]	[illegible]	Secretary

AP aims and actions

Comments

[illegible] information [illegible] limited to one representative body from each country.
[illegible]
with other international organisations.

A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 S

Country No. Type Functions Sources Effects Controls Remedies Size Status Date

NAME [illegible]

[illegible] Clean Air and Water in W. Europe

ACRONYM [illegible]

See also

ADDRESS [illegible]
[illegible]
The Netherlands.

Tel [illegible]

AFFIL most [illegible]s in W. Europe.

Title	PERSONNEL	Function
Mr.	[illegible]	Gen. Secretary
Dr.	P.C.[illegible]	tech. secretary
Mr.	W.[illegible]	development engineer

AP aims and actions

Study, recommendations and [illegible] of joint research by and for its members.
Collection and organisation of information pertaining to the pollution potential of oil transportation, refining and marketing operations.
Support of selected (mainly university) research.

Comments:

Set up by major oil refining [illegible] as an international study group for the CONservation of Clean Air and Water in W. Europe.
Operates through WGs of experts from member companies.

7.71

X [illegible] A B [illegible] 04 05 11 [illegible] 13 14 16 21 [illegible] 23 24 [illegible]

Country No. Type Functions Sources [illegible] Contacts [illegible]

NAME [illegible]

ACRONYM [illegible]

ADDRESS [illegible]

Title PERSONNEL Function

[illegible]

Tel [illegible]

AFFIL [illegible]

AP aims and actions

[illegible]

Comments

[illegible]

X [illegible] A B [illegible] 16 [illegible]

Country No. Type Functions Sources Dates Contacts [illegible]

NAME [illegible]

ACRONYM [illegible]

ADDRESS [illegible]

Title PERSONNEL Function

Tel

AFFIL [illegible]

AP aims and actions

[illegible]

Comments

X 026 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: COORDINATING EUROPEAN COUNCIL...LUBRICANTS AND FUELS... *

ACRONYM C E C

See also

ADDRESS 61 New Cavendish Street,
GB- LONDON W.1.

Tel (01) 580.7583

AFFIL Automobile Industry, petroleum Industry, and users in 9 European countries.

Title	PERSONNEL	Function
	R. M. Joblet	president
Dr.	H. G. Wenderoth	vice-president
	W. Förster	chmn of Fuels Cttee.
	J. G. Withers	secretary
	J. Bodd	
	F. Pinolli	
	Lazar	
	Kraft	

AP aims and actions

Studies of the technical and economic factors related (amongst others) to the reduction of vehicle emissions so as to be able to advise member organisations and other interested bodies, including governments.

Comments

* Coordinating European Council for the Development of Performance Tests for Lubricants and Engine Fuels.

Cooperates with BEICA (X.005), [illegible] (GB.061), and through them with ECE.WP29 (X.011).

Has published reports on diesel smoke causes and measurements methods.

X.026 C E C 7.71

X 027 ASN A B C D E F 01 02 03 04 05 11 12 13 14 15 21 22 23 24 25 31 32 33 34 35 L M S 1 2 3 7.71 S I

Country No Type Functions Sources Effects Controls Remedies Size Status Date

NAME: INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ACRONYM I S O

See also

ADDRESS 1 rue de Varembé,
CH-1211 GENEVA 20.

Tel (022) 34.12.40

AFFIL National bodies in [illegible] countries

Title	PERSONNEL	Function

AP aims and actions

Has established Technical Cttee for Air Purity to define the terminology, classification, standard methods of test and control for air pollutants.

Comments

Set up 1971.

X.027 I S O 7.71